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CONTENTS

The Infrequency of Primary Infection in Gall-bladder Disease. *Henry M. Feinblatt* 1073

The Management of Frontal Sinus Infection. *Oliver A. Lothrop* 1078

Some Deceptions and Surprises in the Course of Pulmonary Tuberculosis. *Edward O. Otis.* 1081

Diagram of the Arterial Circulation of Basal Ganglia. *H. F. Aitken* 1084

MEDICAL PROGRESS

Progress in Psychiatry. *Isador H. Coriat* 1085

THE VERMONT STATE MEDICAL SOCIETY

Rural Medical Problems in Vermont 1091

The Situation in Rural Districts as Regards Medical Services. *Guy B. Horton* 1091

Why the Situation in the Rural Districts as Regards Medical Service? *J. N. Jenne* 1099

Miscellany 1103

CASE RECORDS OF THE MASSACHUSETTS GENERAL HOSPITAL

Case 14411 — Drowsiness and Swelling of the Face. *Richard C. Cabot.* Case 14412—An Unusual Case of Vomiting. *Joseph Garland.* 1106

EDITORIALS

Nurses, Patients and Pocket-books 1113

The Neglected Age 1114

A Doctor's Predicament 1115

This Week's Issue 1115

(*Contents continued on next page*)

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CONTENTS

(Continued)

BOOK REVIEWS

Blood: A Study in General Physiology. Lawrence J. Henderson.... 1126
Bronchial Asthma—Its Diagnosis and Treatment. Harry L. Alexander.... 1127
Criteria for the Classification and Diagnosis of Heart Disease.... 1126
The Daily Health Builder. C. Ward Crampton.... 1128
The Determination of Hydrogen Ions. W. Mansfield Clark.... 1127
Goiter Prevention and Thyroid Protection. Israel Bram.... 1125
An Introduction to Experimental Pharmacology. Torald Sollmann.... 1128
Laboratory Manual of the Massachusetts General Hospital. Roy R. Wheeler and F. T. Hunter. 1126
L'Exploration Radiologique en Gynecologie. Claude Béclère.... 1127
Surgical Clinics of North America. Vol. VIII, No. 4, August, 1928.... 1128
Syphilis. Charles C. Dennie.... 1127

BOOKS RECEIVED FOR REVIEW.... 1128
BOSTON MEDICAL LIBRARY.... 1116
A New England Institution.... 1117
CORRESPONDENCE
Henry M. Stanley a Prisoner of War at Camp Douglas. Wm. Pearce Coues.... 1120
MISCELLANY
Appointment of Michael M. Davis and Others.... 1117
Cancer Control and the American Public Health Association.... 1120
Connecticut Mortality Statistics: 1927.... 1118
Excerpts from the Statement by the Federal Trade Commission at a Trade Practice Conference.... 1118
A Movement to Have a Physician in the Cabinet of the President of the United States.... 1118
The National Research Council Committee.... 1119
Sing Sing Clinic a Going Concern.... 1090
Weekly Mortality From Respiratory Illness Shows Gain.... 1118
NEWS ITEMS.... 1122
NOTICES.... 1122
RECENT DEATHS.... 1121
REPORTS AND NOTICES OF MEETINGS.... 1123
SOCIETY MEETINGS.... 1124

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THE INFREQUENCY OF PRIMARY INFECTION IN GALLBLADDER DISEASE

A Study of Four Hundred Gallbladders Removed at Operation*

BY HENRY M. FEINBLATT, M.D.†

CHOLECYSTITIS from the clinical viewpoint is a very common disease. Moreover, approximately 10 per cent. of all necropsies on subjects over the age of 35 disclose the presence of gallstones, but only a small fraction of these persons suffer during life from symptoms severe enough to warrant their seeking medical advice. Peterson found gallstones in 12.5 per cent. of 1,066 subjects upon whom abdominal section was performed for pelvic disease.

It is generally assumed, but without adequate proof, that the etiologic factor in the great majority of cases of cholecystitis is infection. Gallbladders removed at necropsy may show considerable variation in size and structure without being in any sense pathologic. Mesenteric membranes between the gallbladder, colon, duodenum and stomach are quite common. In fact, from 30 to 35 per cent. of all stillbirths show such membranes, which cannot therefore be interpreted as inflammatory adhesions.

Much emphasis has been placed upon the dangers resulting from gallbladder infection, but postmortem observations except in elderly subjects are characterized by an absence of diffuse peritonitis of gallbladder origin. Considering the great frequency of cholecystitis, the infrequency of peritoneal infection arising from the gallbladder is impressive. If infection were an important etiologic factor in cholecystitis, we should expect a fairly high incidence of generalized peritonitis following gallbladder disease, comparable to the conditions found in appendicitis. As a matter of fact, even if we include mechanical perforation of the gallbladder by stones, the incidence of generalized peritonitis after gallbladder disease is extremely low.

Gallstones have been found free in the peritoneal cavity with the rent in the gallbladder completely repaired and no evidences of peritoneal disease. This observation emphasizes the probability that other factors than infection may play an important part in gallbladder disease. Granted that empyema of the gallbladder or intraperitoneal abscess may occur after secondary infections from the duodenum, the incidence of these conditions is relatively infrequent. These are not the usual cases for which gallbladder surgery is recommended.

When the clinical course of a large group of gallbladder cases representing all stages and degrees of severity is analyzed, it offers a striking contrast to the conditions found in a similar series of infections of the appendix or fallopian tube. In general, there is an absence of febrile reaction and the pulse and respiratory rates are well within the normal range; leukocytosis, pallor and apathy, which are so common in serious appendiceal disease, are likely to be absent. As a rule, the symptoms of gallbladder disease are relatively mild and subside within a few days.

Certain points with reference to the physiology of the gallbladder help us in understanding its pathology. The gallbladder and the ducts are richly supplied with lymphatics and blood vessels. Heavy nerve trunks extend from the right celiac ganglion, carrying fibers from both vagi along the posterior wall of the common duct, whence they ramify over the gallbladder and liver. Nerve impulses affecting the celiac plexus definitely influence the physiologic reaction in the gallbladder and the liver. McCotter and Snyder[1], working in the anatomic laboratory of Michigan University, found and described a large nerve trunk which is distributed along the posterior wall of the common duct. This trunk was present in all of the sixty cadavers which they examined.

Due to its papillary arrangement, the epithelial surface of the gallbladder offers a large field for contact with its contents. Rous and McMaster[2] have proved that the gallbladder is very active as an absorptive organ. Bile passing through it may be concentrated more than four times; bile allowed to remain in it for twenty-four hours may be concentrated to one-tenth of its original volume. The concentrating power of this organ must have an important bearing on the precipitation of crystals from liquid bile.

In four necropsies not included in my gallbladder series, all of them following septic abor-

*Read before the American Gastro-Enterological Society in Washington, D. C., May 1, 1928.

†For record and address of author see "This Week's Issue," page 1115.

tion, I found the gallbladders to be full of flakes of cholesterol crystals and conglomerations of these crystals forming stones from 1 to 2 mm. in diameter. To my mind, what was taking place in these cases was an early stage of gallstone formation due to the process of biliary inspissation with precipitation of its crystals. The walls of these gallbladders showed no evidence of organic disease. The process of inspissation and crystallization applies not only to cholesterol but also to other crystals. Pregnancy has been stressed as an important factor leading to the formation of gallstones; and in the four cases which I have just cited it is significant that the beginning of pregnancy was associated with the beginning of gallstone formation and examination of the walls of the gallbladder showed no inflammatory changes.

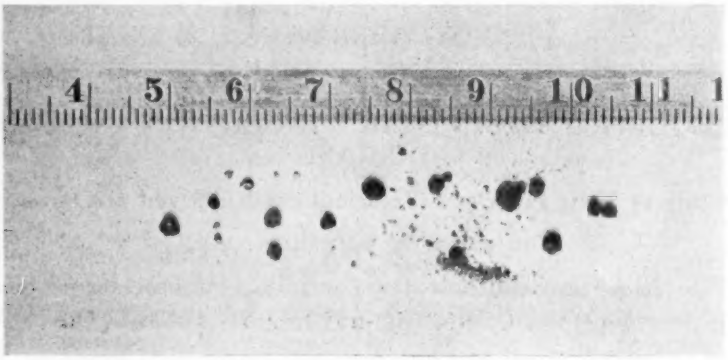

FIG. 1. Early gallstone formation in cases of septic abortion.

Four hundred gallbladders removed at operation were studied pathologically. For purpose of analysis we may divide this series into two groups; namely, (1) those in which gallstones were absent and (2) those in which they were present. In twenty cases the condition found on gross examination was acute empyema.

From the clinical standpoint, 48 per cent. of the cases were considered as chronic cholecystitis and the patients were admitted and operated upon during the period of quiescence. Forty-two per cent. of the patients were admitted during an attack and were considered to be suffering from acute cholecystitis. Fifty per cent. of all patients were under 40 years of age. There were four female patients to one male.

The outstanding reasons for admission and gallbladder operations were: (1) pain in the right upper quadrant, (2) nausea and vomiting, (3) epigastric distress and (4) jaundice. Jaundice was present in only twenty-eight cases of the entire series. In two cases of arthritis and one of bronchial asthma, cholecystectomy was performed in the hope of thereby removing a focus of infection. In each instance the organ contained no calculi and was normal on histologic examination. The removal of the gallbladder on such a conjectural basis is to be regretted. The fact that in occasional instances improvement has followed such operations does not warrant the continuance of such procedures. It is common knowledge that many chronic diseases, such as asthma and arthritis, are frequently associated with instability of the nervous system. Consequently such patients are likely either to exaggerate the severity of their symptoms, in the first place, or to be influenced by suggestion with regard to the relief which they obtain from operation. The relief of the symptoms does not prove that the gallbladder was really the seat of the disease.

Gallstones were found in 60 per cent. of my chronic cases and 63 per cent. of the acute. A survey of the recent literature shows that more gallbladders free from gallstones are now being removed than was the case in former years. Deaver and Bortz[3] reported on 903 gallbladders removed at operation, 50 per cent. of which were found to be non-calculous. It has been suggested that early cholecystectomy may be utilized as a preventive of more serious disease. Much emphasis has been placed on the fact that no apparent ills follow removal of the normal gallbladder. This does not mean that the gallbladder is without an important function but rather that the body adapts itself to the loss. Following ablation of the gallbladder there is pronounced and permanent dilatation of the ducts, which thereby take upon themselves many of the functions of the removed organ. However, uncertainty as to the functions of the gallbladder and confidence in the ability of the body to readjust itself to its loss do not justify the surgeon in performing cholecystectomy with impunity.

Denton[4], in an article on the mode of origin of gallbladder lesions, emphasized the importance of the mechanical factors. In gallbladders removed two or three days after impaction of the cystic duct with a stone, he found the primary lesions to be intramural edema, venous distention and intramural hemorrhage or hematoma. The fact that these circulatory changes were usually not attended with marked febrile

reaction and there was no thrombosis of the cystic vessels suggests that the vascular changes are independent of inflammatory reaction and due to the mechanical effects of impaction of the stone in the cystic duct. Denton believes that, when the stone is sufficiently large and the impaction great enough, sufficient interference with lymph and venous return results to produce intramural hemorrhage and a state analogous to infarction. In his series of gallbladders without marked and the surface appeared very tense and red, disclosing areas of a deeper red in the serosa. In the most severe cases, the gallbladder was not tense but appeared of a dark purple, almost black, color; the gross specimens were gangrenous.

Microscopic sections of the calculous gallbladders revealed changes that support Denton's view with regard to the importance of mechanical interference with the lymph and venous cir-

FIG. 2. Appearance of gallbladder wall in "acute cholecystitis": edema and hemorrhage with separation of the mucosa.

stones he further emphasized the absence of lesions of an infectious nature.

In my series, 60 per cent. of the gallbladders containing stones showed gross or microscopic evidence of disease. While widespread adhesions to the gallbladder were common, their origin was difficult to explain and many of them were undoubtedly anomalous to a large extent and of congenital origin; therefore, they could not be considered as proofs of pre-existing inflammation in the gallbladder. The appearance of the gallbladders themselves varied considerably, apparently depending upon the acuteness of the disease and the severity of the causal factor. In some instances the gallbladders appeared rather full and tense and had a diffusely pinkish serosa. In others, distention was more culation. In the milder cases, there was edema of the entire wall with venous congestion and small discrete hemorrhagic areas throughout, which were more marked in the submucosa and accompanied by bulging of the mucosa. In the more severe cases, the outstanding features were extensive edema throughout and more extensive hemorrhage into the tissues. In places, the hemorrhage into the submucosa was great enough to cause complete or partial detachment of the mucosa. The most severe changes were observed in the gangrenous types. Here again the lesion was essentially vascular and analogous to infarction. There was extensive hemorrhage beneath the serosa in the muscular wall and in the submucous coat. Large areas on the internal surface were denuded of mucosa. The con-

tents of such gallbladders have often been described as empyematous; they are in reality a mixture of bile, desquamated mucosa, blood, cholesterol and débris.

The primary lesions observed were characteristically vascular and consisted of edema, congestion and hemorrhage involving the submucous, intramural and subserous coats. In a number of cases in which the clinical history recorded an interval the findings were of unusual interest: small areas of red cell infiltration in the subserosa or submucosa and local or extensive areas of active connective tissue proliferation in a state of repair were observed.

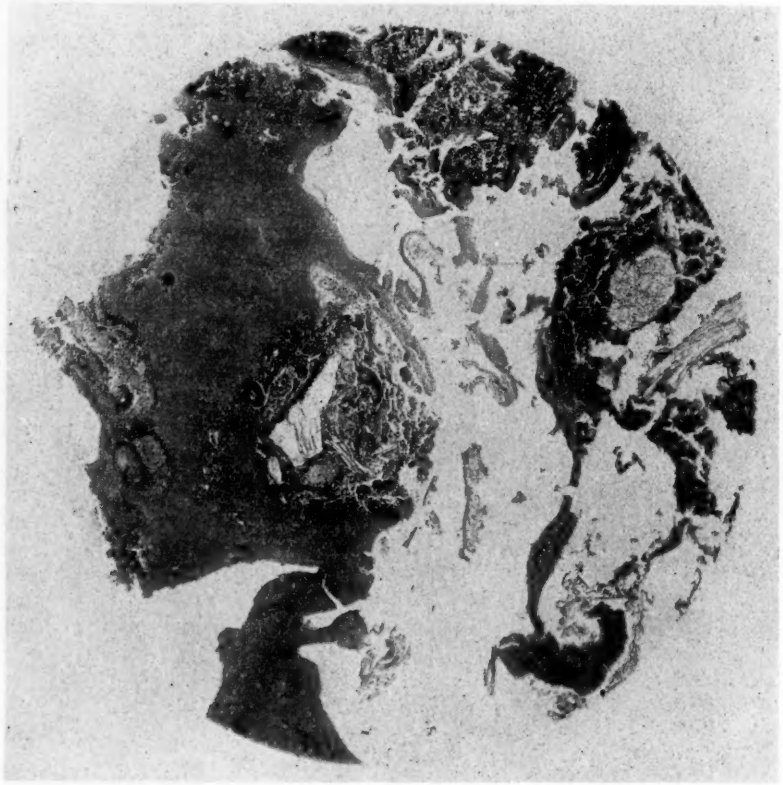

FIG. 3. Contents of the "empyematous" gallbladder: coag ulated blood, desquamated mucosa, blood cells and mucus.

In twenty cases surgically considered to be empyema of the gallbladder, the contents of this organ were a thick material resembling pus. It was of a greenish red or black color and was found on examination to consist of inspissated bile, mucus, blood pigment, disintegrated mucosa, cholesterol, stones and crystals. The great majority of direct smears failed to reveal frank pus; that is, large numbers of polymorphonuclear cells with ingested bacteria. There were many disintegrated red blood cells and desquamated mucosal cells, but few leukocytes. In only 40 per cent. of the cases did the pus-like material give a positive culture, and then the bacillus coli was the predominating micro-örganism. Streptococcus non-hemolyticus was isolated three times and staphylococcus albus once. The non-hemolytic streptococcus may have belonged to the common intestinal strain of enterococcus. Together with bacillus coli, these organisms are not of great significance and cannot be interpreted as meaning that the etiologic factor in the cases in which they were found was infectious. They may well have been accidental guests in the gallbladder.

Drennan[5], reporting on the bacteriologic findings in one hundred gallbladders removed at operation at the Mayo Clinic, found eighty-one sterile. In the nineteen gallbladders from which organisms were grown, bacillus coli was present in twelve instances; staphylococcus, in four; streptococcus, in two; and sarcinae, in one. It is well known that in states of intestinal stasis such common intestinal micro-örganisms may readily gain access to the gallbladder.

In six of my cases operation disclosed that the gallbladder had ruptured and discharged stones and bile into the peritoneal cavity. None of these cases showed clinical evidences of suppurative peritonitis. Their course was no more severe than in acute cholecystitis without rupture of the gallbladder. These findings are in accord with the experience that gallstones may be found in the abdominal cavity of the cadaver in the absence of any evidences of peritonitis. They serve to minimize the importance of infection as an etiologic factor in this type of case.

Almost invariably the non-calculous gallblad-

ders removed at operation were free from histologic evidences of suppurative inflammation. There was no evidence of actual infections of the wall of the gallbladder, although micro-örganisms were occasionally present in the mucosa. Twelve per cent. of the non-calculous gallbladders showed evidences of lesions similar to those in the calculous group. These findings would suggest that stones had been present and passed

diabetic acidosis	3
carcinoma of the colon	3
cardiac decompensation with large tender liver (mistaken diagnosis of cholecystitis)	3
coronary occlusion (operation performed because of pain and tenderness in right upper quadrant)	2
lobar pneumonia involving the right lower lobe	2
hemorrhage	2
abscess of the liver	2
carcinoma of the stomach	1

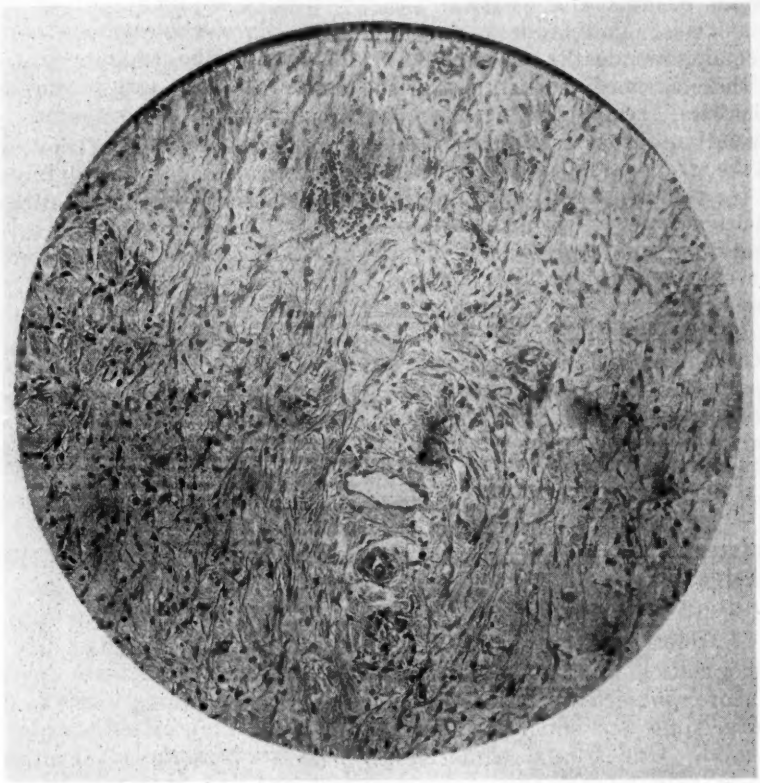

FIG. 4. Edematous cicatrix: foci of red blood cells still present.

before operation, or that they were overlooked during the operation. It is not a simple matter, when the gallbladder is full, to palpate individual stones. Since a number of the gallbladders were opened by the surgeon, it is possible that their contained stones were accidentally lost.

Eighty-eight per cent. of all the non-calculous gallbladders were found to be entirely free from any significant lesions. The persistence of symptoms after operation and the subsequent history suggested that in these cases the trouble had not been properly located when the gallbladder was chosen as the field of therapeutic endeavor.

Statistics with regard to the causes of death following gallbladder operations are unreliable. In my series the mortality was 9 per cent.; 50 per cent. of the deaths were in patients under forty years of age. In no instance could death be attributed to infectious peritonitis of gallbladder origin. The causes of death were as follows:

acute yellow atrophy of the liver and hematogenous jaundice	1
multiple gumma of the liver with jaundice mistaken for common duct obstruction	1
carcinoma of liver	1
carcinoma of bile ducts	1
pulmonary edema due to cardiac decompensation	1

In one case streptococcus hemolyticus peritonitis occurred from perforation of a carcinoma of the colon. The tumor on the mucosal side of the gut was ulcerated and heavily infected.

Two of the non-calculous gallbladders showed the histologic picture of "strawberry gallbladder." In these cases no changes suggestive of infection were found. Just what the underlying cause was it is difficult to decide.

When high fever was present in cases of acute cholecystitis it was due to complications, including acute tonsillitis, lobar pneumonia and acute purulent otitis media.

Pathologic study of my series of four hundred gallbladders removed at operation has impressed

me with the relative unimportance of infection as an etiologic factor and the greater importance of metabolic and mechanical agencies. The clinical terms implying infection are erroneous and misleading both with regard to the underlying condition and the eventual natural course of the disease. From the pathologic standpoint, I recommend the morphologic description of gallbladder lesions given by Denton; namely, edema, edema and hemorrhage, hematoma, infarction, edematous cicatrix and cicatrix.

I believe that most gallbladders without stones should remain outside the realm of surgery; that only those cases of cholelithiasis with mechanical difficulties, frequent recurrences or progressive emaciation demand surgical attention; and that the greatest indication for surgery is stone in the common duct with jaundice. Unlike appendicitis, cholecystitis is not a condition demanding immediate surgery. A month may well intervene before operation is performed, after which more careful study frequently shows the inadvisability of surgery. While empyema of the gallbladder may occur as a result of secondary infection from the duodenum, patients with this condition are usually so desperately ill that surgical intervention is likely to be risky.

CONCLUSIONS

1. Histopathologic study of gallbladders removed at operation would lead us to believe that the rôle of infection in the causation of cholecystitis has been greatly overestimated, while the importance of metabolic and mechanical factors has not received due consideration.

2. Primary infectious lesions of the gallbladder are exceedingly rare and focal infection arising from this organ has not been proved.

3. Since cholecystitis rarely gives rise to peritonitis, the emergency treatment for gallbladder disease can in no sense be compared with that for appendicitis.

4. The treatment of cholecystitis is primarily a medical situation and becomes surgical only when mechanical complications develop.

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THE MANAGEMENT OF FRONTAL SINUS INFECTION

BY OLIVER A. LOTHROP, M.D.*

THE mention of frontal sinus infection brings to mind inflammation of the frontal sinus, which may be acute, sub-acute or chronic. It may involve a large sinus or a small one; it may be virulent or mild. One frontal sinus alone may be infected or both may be involved. An adjacent maxillary or ethmoidal sinusitis may be present either co-incident with, or even antedating the frontal sinusitis. Added to these variations there will be patients having different anatomic and physiologic peculiarities, different degrees of resistance to bacteria, or they may be profoundly anaphylactic with a pale, soggy, or even polypoid mucous membrane. Again the picture is complicated by the reaction to different kinds of bacteria that may be implanted on any or several of the previously mentioned conditions.

Often in the past a single operation or one line of treatment was used to cope with any one of the various types or stages of infection that was presented. If the ideal operation and treatment co-incided with favorable conditions in the case, a satisfactory result came about and that operation was proclaimed as the best. But later if that technique was used on a case with conditions not suited to its needs, a dismal failure and disappointment resulted. It is the purpose of this paper to co-ördinate the known surgical and medical procedures with the different types and stages of frontal sinus infection, except those cases where a radical operation had been done as a first and final procedure, or a complication such as a virulent spreading osteomyelitis, or meningitis has already ensued.

The acute frontal sinus infection generally follows as a complication from a previous acute infection of the nasal mucous membrane. This infection may be called a "cold", grippe, influenza, scarlet fever, measles, syphilis, or any of the diseases that affect the mucous membranes of the body. The special invasion of the sinus is aided by hard blowing of the nose, coughing, nasal douches, sea bathing, diving and fatigue or exposure. A deviated septum, enlarged middle turbinate, enlarged bulla, or any anatomic variation that interferes with the free drainage and ventilation of the sinus through the naso-frontal duct favors involvement of that sinus. A previous involvement of a neighboring sinus like the antrum may favor infection of the frontal sinus.

The symptoms of frontal sinus involvement at this stage are diurnal pain or headache, made worse by leaning forward, and tenderness over the affected sinus. The pain begins generally

*For record and address of author see "This Week's Issue," page 1115.

a short interval after the patient awakes and subsides late in the afternoon or evening. In only a very extreme case might it persist nearly through the night. On the other hand, were the case one of an acute supra-orbital neuritis, the pain would be worse at night and the patient would wake up with a headache. Care must be exercised at this point to exclude acute antrum infection, for an antrum infection often does cause frontal pain and tenderness, but less often has the diurnal feature. In these cases, even if the x-ray shows congestion in the frontal sinus, appropriate drainage and treatment of the antrum will clear up all the symptoms of the frontal sinus. In acute virulent cases oedema of the forehead and eyelid may appear, but this must not be confused with the signs of perforation which may occur in more chronic cases as the result of local osteomyelitis of a frontal sinus wall. Sometimes through the emissary veins or other normal channels the infection gets outside of the sinus and forms a sub-periosteal abscess. Even in these cases an external frontal sinus operation would be attended with grave danger. A simple incision through the soft tissues to evacuate the pus is all that would be advisable at this time, supplemented possibly by intra-nasal removal of the middle turbinate and anterior ethmoidal cells, depending somewhat on the stage and virulence of inflammation of the nasal mucous membrane.

The treatment in acute cases would best be done by insisting that the patient remain quiet in bed even during the period of remission of the symptoms. The object of this is to utilize all the patient's energy in forming antitoxin and building up a resistance instead of dissipating it in work or play. Local treatment would consist in the application of an astringent to reduce the engorgement of the nasal tissues and facilitate drainage. Cocaine alone is probably the most serviceable. Adrenalin tends to give a worse subsequent reaction. If the application does not control the pain, an internal sedative of morphia should be given, or perhaps some other sedative commensurate with the amount of pain. Patience should be exercised and, as these cases run a course of from ten days to two weeks, the physician should not be concerned about his patient until after that time has elapsed. If, however, there is no improvement after two weeks, removal of the anterior half of the middle turbinate may be considered. Local anesthesia is much the safer. Ether in such cases, with a still active inflammation of all mucous membranes, might produce some lung infection of serious consequence. If the removal of the turbinate is insufficient, the anterior ethmoidal cells may be exenterated, but great care should be taken not to injure the margin of the osteum at this stage. Any septum resection at this time would be a decided risk, but in those cases that have recurrent attacks the correction of a deviated septum during the interval would be the ideal operation, with or without the removal of the anterior half of the middle turbinate.

If, in due time, the above treatments have failed to produce a subsidence of all the inflammation, a subacute condition continues and unless severe symptoms persist or drainage is blocked, it is probably best to let this stage alone until a more chronic and less active stage has been reached before more radical surgery is planned. Should the subacute stage persist with symptoms and poor drainage, the floor of the sinus ought to be removed and the osteum enlarged by an intranasal operation. An acute exacerbation of a chronic frontal sinusitis or a recurrent attack should be considered as requiring the same immediate treatment as an initial acute attack, because radical operative procedures would have almost as serious risks.

After months or years of chronic suppuration and no recent acute exacerbation evident in signs or history, a more radical operation may be considered, provided the patient has symptoms and enough discharge to warrant it.

The choice of radical operation might well be left to the surgeon. He will probably select the one he has learned to do, or can do the easiest and quickest. *The success of the radical operations will be more dependent on the condition of the patient and pathologic state of the sinus than the selection of any individual operation.* The operation that opens up the least tissue and leaves the most bone covered with periosteum is the most desirable. Most of the radical operations open the sinuses from the outside, and this is desirable on account of the view and safety it furnishes.

The Killian operation is one of the older and well known methods and has been very successful in many instances. It is well suited to those cases in which the whole ethmoidal labyrinth must be exenterated at the same time. It has the objection of having a long incision which severs the supra-orbital nerve, and the extensive elevation of periosteum dislodges the tendo-oculi. Leaving the supereiliary ridge as a bridge, which at the best is only semi-nourished, is also objectionable. Another serious defect arises from the fact that more or less bone is removed so that the soft tissues fall into the lumen of the passage from the sinus to the nose. At the time of operation the passage looks large, but it is deceptive, for as soon as the wound is closed, the soft tissues obliterate much of the space that looked adequate.

Recently the Lynch operation has been introduced but it is yet too new to judge of its real ultimate value. Like the Killian it has the objection of dislodging the tendo-oculi and leaves an opening into the naso-frontal passage into which the soft tissue may fall, and aided by a more luxuriant granulation tissue which springs

from soft tissues, tends ultimately to fill up the passageway. Unlike the Killian it does not open the anterior wall of the sinus and there is no devitalized bridge left. It has an objection of its own in the fact that inspection and curettage of the sinus are limited.

An operation devised and published by Dr. Howard A. Lothrop* in 1914 and 1915† has the advantage of a short incision in the brow and does not cut the supra-orbital nerve and vessels, so that only the small area supplied by the supra-trochlear nerve is anesthetized. It also has the great advantage of leaving a bony shell around the enlarged passageway made between the sinus and the nose. There is no dislodging of the tendo-oculi, for the soft tissues are not elevated over the floor of the sinus or down onto the side of the nose. It made, however, as originally described, a rather long and physically difficult operation because the whole interfrontal septum, the floors of both sinuses, the upper part of the nasal septum and all the bony thickening made by the frontal and nasal bony articulations had to be resected. When completely done, however, it gave a wonderful passageway, though this was partly offset by a large area of denuded bone from which a larger area of granulations could arise.

The formation of granulations and subsequent contraction are conditions with which *all* operations must compete. Earlier in this paper great stress was laid on the stage of infection in the sinus at the time a radical operation was elected to be done. Granulations grow sooner and much more luxuriously in acute cases of any type. They form more readily in younger than in older patients. They are much more troublesome in thick-walled sinuses, and the larger the area of bone denuded by an operation, the greater the mass of granulations will be, which tends to defeat the object of the operation. Not only do more granulations spring from soft tissues, but where such tissue is exposed in the naso-frontal passageway, subsequent contraction pulls in this tissue and adds to the difficulties of keeping the passageway patent. Granulations have a property, however, of which advantage may be taken. After granulations have grown and the infection is entirely eradicated and they begin to contract, they may again be removed and will not grow anywhere near as luxuriantly as before. There is no disgrace in removing in those few cases where this may take place, those granulations that may have formed following the first operation. It can be considered as a two-stage operation, and as such is recognized as a proper surgical procedure.

*This manuscript was read and approved by Dr. Howard A. Lothrop.

†Title—"Frontal Sinus Suppuration," Annals of Surgery, June, 1914. Title—"Frontal Sinus Suppuration with Results of New Operative Procedure," American Medical Journal, July 10, 1915, Vol. LXV, pp. 153-160.

In order to take advantage of this valuable fact, the Lothrop operation, perhaps not carried to its fullest expression, offers the best field for a secondary operation. If only one side was originally involved, that side alone may be rasped out and yet not so extensively as to denude too much bone. As emphasized before, it should not be done in an actue or sub-acute case, nor too soon after an acute exacerbation, nor when there is still infection in the nasal mucous membrane following the last cold, etc. To do so means the danger of an osteomyelitis of the frontal bone, meningitis and other complications, to say nothing of the profuse granulations that will surely promptly defeat the object of the operation. In spite of selecting the best of conditions, should granulations block the artificial naso-frontal passage, these, when in a quiescent stage, may be curetted and rasped out by simply opening up the original brow incision. The opening into the sinus through the anterior wall at the original operation should, preferably, be made as high as convenient, so that no tissues can subsequently be drawn in.

It is also assumed that the intra-nasal work of removing the middle turbinate and anterior ethmoidal cells and correcting a deflected septum has been accomplished several weeks, or better, months before.

Should two sinuses be involved, either side may be opened independently, for the scar and the deformity in the Lothrop technique are insignificant and the area of numbness of the forehead much restricted, as mentioned before.

Small sinuses without too thick surrounding structures are most amenable to operation, large sinuses with ramifications the most intractable. The greatest difficulty here arises from the fact that there is a very large surface from which secretions arise and these must pass through a restricted passageway. Were such a case one that needed curettage, the technique of reaching every prolongation would be impossible and therefore diseased foci would be unavoidably left. In such cases the writer has tried with success the expedient of taking down the interfrontal partition, which is quite large in these sinuses. If both sinuses are infected, the one with the more patent passageway helps the other. If one sinus is normal, it drains the excess of pus through a normal mechanism. The normal sinus does not become seriously infected, as would at first thought be expected.

Should a sinus wall become perforated, the external pus should be evacuated by a simple incision in the brow, and the intra-nasal removal of the anterior half of the middle turbinate and the anterior ethmoidal cells. In this case there is no object in preserving the margin of the osteum. In fact it would be better to take away the ethmoidal floor of the frontal sinus. Later, when all acute symptoms have subsided and perhaps only a fistula remains, a radical and plastic

operation may be done. Whether to curette out the mucous membrane of the sinus in any given case is a difficult decision to make. If it is only edematous and looks as if it would resolve to normal, it should be carefully preserved. If the sinus is a mass of granulations and polypi, curettage is probably indicated. If in doubt, leave it alone and if found necessary later, remove it as a secondary procedure. Removal of an early, acute, oedematous, jelly-like lining is attended with great risk. Any complicating disease such as anaphylaxis, the involvement of other sinuses, diabetes, syphilis, etc., should have appropriate treatment in order that the quickest and best results may be obtained from the procedures directed to the local frontal sinus infection.

In Conclusion:—Choose a treatment or operation suited to the stage and type of the infection, and ultimately get the case in a condition where, if a radical operation is needed, it will be successful.

SOME DECEPTIONS AND SURPRISES IN THE COURSE OF PULMONARY TUBERCULOSIS

BY EDWARD O. OTIS, M.D., F.A.C.P.*

THERE is no disease of which I am aware which presents so many and so varied unexpected changes for better or worse as pulmonary tuberculosis, and which so often deceives or surprises even the most experienced phthisiotherapeutists.

For example, on March 5, 1912, I was called into the country to see a young man of twenty who was in bed with symptoms of active tuberculosis. He twice had had hemoptysis. The physical examination showed extensive destructive disease throughout the right lung, with dullness, diminished respiration and coarse râles and more or less infiltration of the left lung. The case was noted as a stage III one and an unfavorable prognosis was given. At this susceptible age, with the active symptoms and large extent of the local involvement, no one would have supposed that there was any chance of the arrest of the disease. A little more than five years later, on December 24, 1917, he entered my office in the uniform of a U. S. sailor. He had successfully passed the examination for entrance into the Service. He reported that his general health was good. He performed his duties in the Service successfully until his discharge. I have seen or heard from him several times since, and he reports himself as in good condition and at work. What a happy surprise!

Another astonishing thing is the remarkable recovery or permanent arrest or quiescence of a tuberculous individual who has been under no continued treatment, especially rest. One perhaps saw more of this in the earlier days, before *rest* became the *sine qua non* in treatment. I have known a carpenter, for instance, who at least obtained a permanent quiescence of his extensive disease and who continued at his work for many years without appreciable loss of vigor. Dr. Trudeau himself lived for sixty-seven years and was ever active and entered the Adirondack woods without thought of taking that continued rest and treatment we now advise. The elder Bowditch tells of his father's cure by riding about New England in an open chaise after he had had an hemoptysis and other symptoms of active disease, and subsequently, by daily walks during the rest of his life, maintaining the arrest of his disease begun in his New England tour. So many patients who went to Colorado in earlier days recovered while taking up their government "claim" or riding among the mountains! I sometimes think that we may be carrying the rest treatment too far in some cases. There is the well-known story of the young man who consulted a London tuberculosis specialist and was told, when he asked what he should do, that he could do anything he pleased, the physician considering that he had not long to live. A year later, the young man appeared at the same physician's office, looking in apparent perfect health.

"Do you know me?" he asked the physician.

"No," the latter replied, "I have never seen you before."

"I am the same person," the young man replied, "whom you told could do anything he pleased, and I pleased to hunt ducks and to drink brandy and soda, and I have been constantly wading in water and drinking all the brandy and soda I pleased, and here I am."

This reminds one of Dr. Austin Flint's use of large amounts of whiskey in the treatment of his consumptive patients with some striking results, as narrated in his book on "Phthisis." I remember a consumptive in Estes Park, Colorado, who spent his days wading in brooks, fishing for trout, and seemed none the worse for it. No one, of course, would now advise such a course for his tuberculous patients; and yet, not a few recovered in living an out-door life without continued rest. May it not be that if one possesses enough of that unknown quality we call resistance, he is bound to recover, whatever he does or does not do? It is to be remembered, however, that as we are in ignorance as to any individual's resistance, the only safe way is to prescribe *rest* for all, and even then we shall have many failures.

*For record and address of author see "This Week's Issue," page 1115.

Again, a school teacher of twenty-eight consulted me on October 19, 1914. She had a temperature of 101.8°, pulse of 122, and weighed 95½ pounds. She had been in bed and had had night sweats. On physical examination, there was extensive infiltration in both lungs with signs of a destructive process at the apex of the right lung. The case was recorded as a stage III one and an unfavorable prognosis was given. On October 24, 1915, she weighed 132¾ pounds; she had no symptoms, and had returned to her teaching. She has remained well, has been working continually, and, in addition, has taken courses in college and has been promoted to high school work. At the last examination, she was still at work and in good health. Again a surprising and rapid recovery!

The result was different in the case of Miss C., who was referred to me on May 23, 1925, as a case of advanced tuberculosis. The disease had not been discovered until the previous summer, and then only from a positive sputum. She had been at a private sanatorium in the country, under the supervision of a specialist, from October 9, 1924, to April 26, 1925. In appearance, she was a healthy-looking woman, well-developed and nourished, weighing 148 pounds, with a temperature of 99.4 and a pulse of 80. She had a slight cough with very little expectoration. On physical examination, there was evidence of extensive destructive disease in the left lung with some evidence of cavity, and possibly some disease in the right lung. She remained in her comfortable home by the river-side, took no exercise, and, as she was examined from time to time, showed a steady diminution of moisture in the left lung. She weighed as much as 164½ pounds, and always looked the picture of health. On the last examination, September 14, 1927, she had had what she called "bronchitis" during the previous summer and was not feeling so well, although she weighed 147½ pounds, and looked to be in perfect health. On physical examination, the local condition appeared to be more active. During this time, she had several intercurrent attacks, one of which was said to be bronchopneumonia and one influenza, but which might have been merely an exacerbation of the original disease. No one who had seen this girl in apparent blooming health would have predicted her death from the disease in so short a time, and yet in less than a year, she died from what her physician called "dilatation of the heart", but of course it was the result of the disease. Such cases are not uncommon, and yet it is easy to be deceived by the appearance of good health.

Another surprise of a different kind is the case of a young girl of seventeen who was referred to me for diagnosis, or for confirmation of one already made, on July 21, 1928. She had always been well, but two months ago and again a few days ago, she spat up a little blood. She was well developed and nourished and weighed 127 pounds. At the time of the examination, she had a temperature of 101.8 and a pulse of 122. She had had no previous serious illness, but complained of occasional colds. She said she had been coughing for only three days, and she had no sputum. On physical examination, only a few tiny fine râles were found at the left apex; otherwise, the examination was negative. A diagnosis of incipient pulmonary tuberculosis was made, but a doubtful prognosis was given on account of her susceptible age and active symptoms. On x-ray examination, however, to my surprise, there was a diffuse soft mottling throughout the whole of the left lung with a small cavity at the extreme apex. What a contrast to the physical examination! Thus the x-ray is shown to be of inestimable value as an adjunct to the physical examination in determining the extent of the disease.

Another not uncommon deception is illustrated by the case of a young woman who consulted her physician for digestive disturbances and was treated for the same. After some time, as the condition did not improve, her lungs were examined and it was found that she had active tuberculosis, from which she eventually died, and which, of course was the real cause of her supposed digestive disturbances. Here was precious time lost in instituting proper treatment by wrongly interpreting the cause of her indigestion. The moral is that when a young person, who ought, at his or her age, to have a good digestion complains of digestive disturbances, one should always consider pulmonary tuberculosis as the real cause of the condition, and therefore a careful examination of the lungs should be made.

So-called "chronic fatigue" may not only be a cause of pulmonary tuberculosis but may also be the result of the disease itself. The young person engaged in routine employment, which in itself he may be able to perform without continued and lasting fatigue, gradually develops a constant tiredness. Such persons often complain of continued fatigue. They go to their work tired, feel tired all day, and work which they have easily accomplished without any lasting fatigue now becomes a heavy burden. The cause of this condition may be the toxemia resulting from the developing pulmonary tuberculosis, and it is always well to search carefully for that possible cause, or else one may be deceived and later discover a well advanced case of active pulmonary tuberculosis when the best chance for treatment has gone by.

The persistence of râles may, in another way, deceive one as to the real condition of the case; particularly at the first examination one may naturally suppose that râles always mean an existing active disease. Dr. Randall Clifford has recently written a paper on this subject, published in the NEW ENGLAND JOURNAL OF

MEDICINE of June 21, 1928. Apparently one may obtain a permanent arrest of his tuberculosis and still have persistent râles for an indefinite period. A striking case of this kind occurred in my practice. Some twenty-five years ago, I examined a young housemaid who showed evidence of pulmonary tuberculosis, and on physical examination, the dominant feature was the large number of comparatively fine râles in about two-thirds of one lung. I was able to turn to my old records and verify this fact. The girl went to the sanatorium at Rutland, and after six months was discharged as an "arrested" case. Twenty-five years later, I happened to meet her and asked for an examination. To my surprise, I found the same old râles still persisting, and yet she had been well and working all this time with no symptoms. Can anyone say what the pathology was in this persistent sign, and would anyone, on examining her for the first time after these twenty-five years and not knowing the story, have not declared that she had active tuberculosis and placed her under treatment?

Another puzzle is that of hemoptysis without symptoms or physical signs. Several years ago, a physician came to me in great alarm because he had had a small hemorrhage. There was no history of any lung trouble nor any previous symptoms. In so far as he knew, he was perfectly well, and the best physical examination I could make showed no evidence of disease in his lungs. The x-ray, taken by a good radiologist, was also negative as was the laryngological examination of the upper respiratory tract. Although in his usual health though naturally feeling alarmed, he took a summer vacation in the country. No subsequent hemorrhage occurred nor any other symptoms, and he returned to his practice and is still busily engaged in his professional duties. I have known other cases of this kind. One wonders what the pathology of the hemoptysis was and whether or not this symptom alone should warrant active treatment.

Bronchiectasis is another condition which is not infrequently mistaken for tuberculosis. It is a condition which is far more common than is supposed, and, as I have said, is frequently mistaken for pulmonary tuberculosis. For example, I had a young child in my clinic who, out of her twelve years, had spent nine of them in either a tuberculosis hospital or a sanatorium, under the mistaken diagnosis of pulmonary tuberculosis. Again, a middle-aged woman, in apparently good health, was sent to me by her physician for treatment because he had found a cavity in one lung. The examination was correct: she did have a cavity, but it was not caused by tuberculosis. The history was that she had been having paroxysms of coughing with large amounts of sputum for seventeen years, and whenever she leaned over to pick up anything from the floor, she had a gush of sputum. During all this time, however, she enjoyed a fair degree of health and there were never any tubercle bacilli in her sputum. In another case, a clergyman was referred to me by his physician for the selection of a climatic resort to which he decided to go on account of tuberculosis. On examination, the physical signs were all at the base of one lung and were indicative of bronchiectasis and not of tuberculosis. I advised against the radical change and the throwing up of his position because, in my opinion, he was not suffering from pulmonary tuberculosis. I suspect, however, that my diagnosis was not concurred in or my advice taken. When, after persistent and frequent search, no tubercle bacilli are found in the sputum, it is well to think of bronchiectasis, particularly if the physical signs are confined to the base, for it is a fact that, with few exceptions, in the adult, pulmonary tuberculosis does not first manifest itself in the base if there are no signs of disease at the apex.

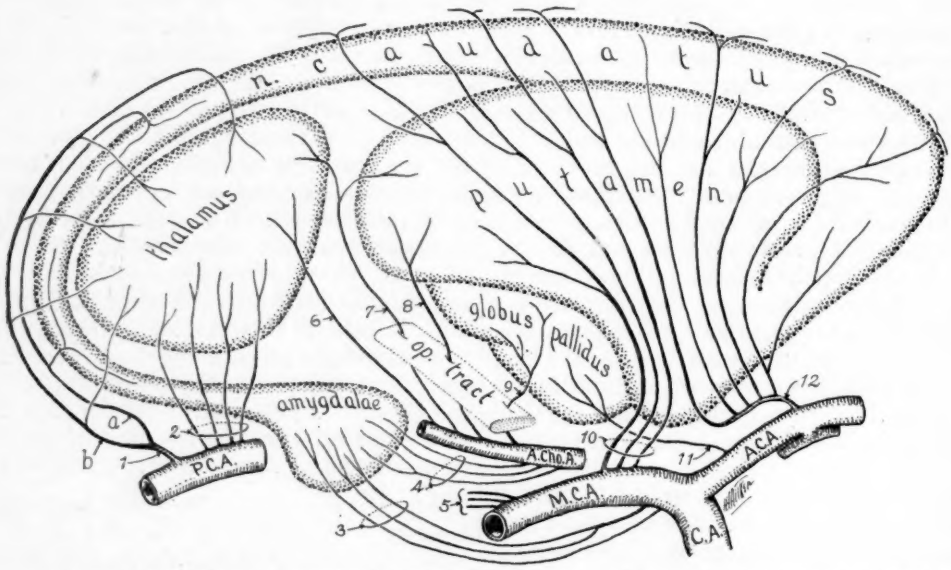
Another surprise is the rapid progress of pulmonary tuberculosis in the case of young athletes. One might naturally suppose that a vigorous, strong young man would more successfully combat the disease. On the contrary, it is very often one's experience that the disease in such persons runs a rapid, acute and fatal course. I have seen a young man, for example, on his school team, show little or no resistance to the progress of the disease, in spite of the most meticulous application of the conventional treatment. What is the reason? Is it because he has drawn too heavily, by his athletic activity, upon his reserve strength which was in the making for his final stable resistance?

Another deception is the effect of any new treatment and the ephemeral improvement from its use. I remember, a few years ago, going through the wards of the Brompton Hospital in London with Professor Inman, when Dreyer's tuberculin was first extolled, and noting the apparent improvement of almost all the patients who were being treated with it; and yet, further clinical experience proved that this tuberculin was of no permanent value. And so it happens that almost any new form of treatment, especially if it is some kind of drug, will temporarily produce an improvement. This is undoubtedly due in part to the known fluctuation of the symptoms, and perhaps more to the hope which "springs eternal in the human breast", and particularly in the breast of the consumptive, often to be cruelly dashed.

Pulmonary tuberculosis is a very deceptive and protean disease and the more one has to do with it the more surprises he will encounter.

DIAGRAM OF THE ARTERIAL CIRCULATION OF THE BASAL GANGLIA

BY H. F. AITKEN*



1 from the Posterior Cerebral Artery which gives off two branches, both of which remain outside of the brain substance until smaller branches are sent into the (a) tail of the Caudate Nucleus, and (b) into the Thalamus; *2* branches from the Posterior Cerebral Artery to the Thalamus; *3* from near the beginning of the Middle Cerebral Artery these branches go to the Amygdaloid Nucleus, as does *4* from the Anterior Choroid Artery; *5* branches of the Middle Cerebral Artery to the Claustrum (omitted); *6* branch from the Anterior Choroid Artery to the Thalamus; *7 8* and *9*, these branches from the Anterior Choroid Artery, in about 90% of the brains dissected, curiously went through the Optic Tract; *10* branches from the Middle Cerebral Artery to the Putamen and the Caudate Nucleus; *11* is quite constant and with *9* supplies the Globus Pallidus; *12* is the important Artery of Heubner, see *Centralblatt fur die Medizinischen Wissenschaften*, Leipzig, December 7th, 1872, pp. 817-821.

A STUDY of the circulation of the Basal Ganglia was commenced in 1903 and was carried on for several years; about one hundred brains were dissected.

The principal paper, "A Report on the Circulation of the Lobar Ganglia, made to Dr. James B. Ayer," was printed in the BOSTON MEDICAL AND SURGICAL JOURNAL, May 6th, 1909. This paper covered the findings shown in the above plate, numbers 6-7-8-9-10-11-12, and its points of especial interest were: the rediscovery of Heubner's Artery (12); the independent circulation of the Globus Pallidus (9 and 11); the circulation of the Claustrum (5); the important contribution of the Anterior Choroid Artery to these ganglia; and a sketch of their venous drainage; and the nonexistence of the so-called Lenticular Optic Artery (Artery of Charcot, Artery of Cerebral Hemorrhage, &c.) see, H. Duret, Recherches Anatomiques sur la Circulation de l'Encephale, *Archives de Physiologie Normale et Pathologique*, 1874. Regarding this last item, verified by Shellshear and others, I received a communication from H. Duret in 1910, in which he still insisted that the said artery *did* exist.

In consideration of the revival of interest in this problem, promoted largely by the most able work of Dr. Joseph L. Shellshear, who was connected with the St. Bartholomew Hospital in London at the time he published his paper "The Basal Arteries of the Forebrain and their Functional Significance" in the (English) *Journal of Anatomy*, Vol. LV, 1921, it is thought advisable to print the above diagram recalling the already published findings, plus those showing numbers 1-3 and 4, which have not before been printed.

*For record and address of author see "This Week's Issue," page 1115.

MEDICAL PROGRESS

PROGRESS IN PSYCHIATRY

BY ISADOR H. CORIAT, M.D.*

RECENT TRENDS IN PSYCHIATRY

IT was pointed out in previous reports of "Progress" in the JOURNAL, that the contemporary trend of psychiatry consisted mainly of the interpretation of symptoms, rather than attempting to fit the clinical manifestations of a mental disease into one of the traditional classification-groups. We are more interested today in the mental processes of the patient, that is, "the change from interest in more or less set diagnoses to an interest rather in an understanding of the case" (Dr. Adolf Meyer, NEW ENGLAND JOURNAL OF MEDICINE, August 23, 1928). Consequently, as Dr. Meyer has pointed out, in the teaching of psychiatry, the student is led to consider the life experiences of the patient, as well as pathology and nosology.

As a result of the work of the last few years, it seems now that the clinical symptom-complexes of psychiatry can be provisionally classified into three broad types of phenomena, namely:—

1. Phenomena of a residual nature following a psychosis and representing remains of a normal state or of a neurosis (the mild, affective depressions).
2. The phenomena of regression (such as schizophrenic stupor and schizophrenic scattering of thought).
3. Phenomena representing attempts at recovery or adjustment (the paranoid or paraphrenic symptom-complexes).

An event of importance within the last year has been the appearance of an English translation of Schilder's "Introduction to a Psycho-Analytical Psychiatry" (translated by Dr. Bernard Glueck). This volume is the first systematic attempt to present a clinical psychiatry on a psychoanalytic or interpretative basis, although Bleuler's work (which was summarized in a previous "Progress" on Sept. 11, 1924), antedated it by several years. Both emphasize sharply the contrast between the older descriptive psychiatry with its insistence on artificial classification and the newer interpretative psychiatry which utilizes psychoanalytic principles and the general biologic and psychodynamic viewpoints of the psychoses. For instance Freud has pointed out in a recent publication (1924) that the difference between a neurosis and a psychosis is this:—a neurosis is the result of a conflict between the ego and the unconscious, whereas a psychosis is the outcome of a similar disturbance between the ego and its environment.

Along this line there also can be profitably consulted Rickman's chronologic collation of the general literature ("The Development of the Psycho-Analytical Theory of the Psychoses 1893-1926"—London 1928). This work contains a valuable summarized table of psychic mechanisms, showing their relation to mental disorders, and also a complete bibliography of psychoanalytic psychiatry.

This break with a rigidity of classification is also seen in Head's recent work on aphasia, where the processes of symbolic formation in speech are emphasized, rather than the older clinical manifestations of "motor" or "sensory" aphasia. Pavlov's work on the conditioned reflexes has also illuminated the problem of the physiologic activity of the cerebral cortex, although Pavlov insists that "it would be the height of presumption to regard these first steps in elucidating the physiology of the cortex as solving the intricate problems of the higher psychic activities in man," as is done by the so-called "behavioristic school" of psychology.

Of practical importance as throwing light upon an important sociologic and legal problem, is Freud's paper on "Fetichism" (*Int. Journal of Psycho Analysis*, April 1928). In this short contribution, are compressed the results of a wide experience with the perversion and the paper should be read by all those who are interested in the subject, as it is representative of an important interpretation in the analysis of a form of abnormal erotic gratification. A new and revised conception of morbid anxiety and morbid fear is set forth in great detail in Freud's recent work on "Inhibition, Symptom and Anxiety." His most recent contribution, which formulates a new theory of the structure and functions of the mind, is exciting a profound influence on contemporary psychiatry. ("The Ego and the Id"—1927.)

Dr. Bernard Hart's Goulstonian lectures on the development of psychopathology and its place in medicine, present a description of the development of psychopathology and a critical review of the chief tenets held by the various schools of thought at the present day. The subject is treated along the lines of causal processes in abnormal mental states and as such presents a very important summarized conclusion. It is a work which may be read with profit by all those interested in the causation and treatment of mental diseases, as the lectures are given with

*For record and address of author see "This Week's Issue," page 1115.

that systematic clarity which is so characteristic of Dr. Hart's work.

THE ETIOLOGY OF ALCOHOLISM

In discussing this subject, Dr. Edward Glover (*Proceedings of the Royal Society of Medicine, Section of Psychiatry,* Vol. XXI, 1928) states that in approaching the problem of alcoholism the important questions to be considered, are, to what development of instinctive life is it a response? How does it affect the individual's relation to environment? and what individual and environmental factors contribute to the choice of alcoholism as a maladaptation? The problem thus becomes one of individual psychology. If the alcoholism is uncomplicated, one must determine why the instinctive difficulties are capable of such direct solution, if the alcoholism is part of a wider symptom-complex, it is necessary to know how the alcoholic response dovetails into other precautions. Leaving the complicated questions of ego and libido psychology aside, as they are detailed in this contribution, it may be briefly stated that there is a resemblance between alcoholic lability and manic-depressive insanity, in other words, some forms of alcoholism might be termed artificial manic-depressive states. The dipsomaniac exhibits some of the characteristics of an obsessional neurotic although the alcoholic ceremonial is more apparent in the social drinker. Furthermore, alcoholism may bring out many perverted or inverted sexual tendencies (such as, for instance, a latent homosexuality) and alcoholism is in this sense, a "pseudoperversion." Finally it stands in close relationship to psychosexual impotence.

THE NEWER VIEWS OF APHASIA

The subject of aphasia, which belongs as much to psychiatry as to neurology, is a most complicated one and for decades has raised controversial questions both clinically and anatomically. Head's recent book ("Aphasia and Kindred Disorders of Speech") is a most important contribution to the subject. Briefly Head's investigations may be summarized as follows:—

Speech and the use of language require the perfect performance and interaction of a series of processes of great complexity. This form of behavior can be disturbed by anything which interrupts the orderly physiologic precision on which it depends. To the group of functions which suffer in these high-grade disorders, Head applies the term of "symbolic formation and expression," signifying that the power to manipulate such symbols as words and numbers is of all most profoundly affected.

These acts of symbolic formation and expression are integrated on a level superior to that of motion and are of a higher order than sight or hearing. Consequently the clinical manifestations of aphasia cannot be classified merely as "motor," "visual" or "auditory" defects of speech: as these designations are purely linguistic terms for diverse human actions and do not correspond even to specific groups of psychic functions.

In Head's classification of aphasia, the arrangement is based upon a name chosen from the most salient defect in the use of words.

"1. *Verbal aphasia* consists of a difficulty in forming words for external or internal speech. The patient may be reduced to almost complete dumbness and cannot even repeat what has been said to him. His comprehension of the meaning of words is greatly in excess of his power of uttering them and he understands most that he hears. Silent reading is hampered by difficulty in remembering a series of words and writing shows the same sort of errors as articulated speech. The verbal aspect of numerals is affected, but not their significance: except in severe cases arithmetical operations can be carried out accurately. The disorder affects mainly verbal structure and words as integral parts of a phrase: their normal value and significance remain comparatively intact.

"2. *Syntactical* aphasia is essentially a disorder of balance and rhythm: syntax suffers greatly. The patient has plenty of words, but their arrangement into co-ördinate phrases is defective: this leads him to talk jargon and renders even internal verbalisation difficult. But the power of writing is in excess of that of articulated speech. He understands most of what is said to him, but in daily intercourse suffers from inability to recall with certainty things he has been told or has gathered from reading; not only is phrasal utterance difficult, but phrasal memory is transitory and consecutive conversation becomes difficult or impossible. Comprehension of the meaning of words, however, is always in excess of power to employ them in daily intercourse.

"3. *Nominal aphasia* comprises loss of power to use names and want of comprehension of the significant value of words and other symbols. Not only does the patient fail to give names of objects placed before him, but, when asked by word of mouth or in print to point to one of them, the choice, even if correct is made slowly and with effort. Such patients read with extreme difficulty, writing is grossly affected and they suffer from defective appreciation of single numbers or letters. Games, such as cards, which demand rapid recognition of names and power to register a score are impossible, though draughts and dominoes may be played correctly.

"4. *Semantic aphasia* consists in a want of recognition of the full significance of words and phrases apart from their direct verbal meaning. Other functions suffer, which have nothing to do with verbalisation. The patient may understand a short phrase, but its ultimate significance escapes him and he fails to comprehend

the final intention of some command imposed upon him orally or in print. He cannot formulate, either to himself or others, a general conception of what he has been told, has read to himself, or has seen in a picture. Such patients can read and write, but the results tend to be inaccurate and confused. Counting is impossible and the significance of numbers and coins may be recognized, but arithmetical operations are disturbed by defective appreciation of the procedure required. There is a wide-spread lack of constructive power for processes of logical thought and orderly manipulations."

As a result of clinical and anatomic investigations, Head concludes that there are no specific "centres" for speaking, reading, writing or other forms of behavior comprised in the normal use of language. On the other hand there are areas of the brain within which structural injury can produce disorders of symbolic formulation and expression. This is manifested in diminished capacity to employ words and figures in certain ways and under certain definite conditions.

MENTAL SYMPTOMS OF HEART DISEASE

In a paper on psychic factors in the course of heart disease, (*Journal American Medical Association,* Vol. 89, Sept. 23, 1927) Dr. Nellis B. Foster points out that psychic disorders may not only be instigated by genuine heart disease, but also by imagined or hypochondrical heart disease. These psychic disorders are not only important, but also may show varying clinical manifestations. In concrete cases, at one extreme, there are clearly defined examples of organic mental reaction due to cerebral congestion or anaemia or from toxic states resulting from cardio-vascular failure, at the other extreme, are failures of adaptation produced by personality or constitutional defects.

In severe cases of cardiac insufficiency, sleep is disturbed and broken by periods of semi-consciousness, in which recurrent dreams or deliria with hallucinations, may occur. There may also be maniacal outbreaks or transitory delusional misinterpretations. In severe cardiac disease, there occur psychic disorders resembling toxic or exhaustion psychoses, changes in personality as psychic readjustments to newly imposed external conditions, or personality traits, which had previously remained repressed and dormant, may emerge. There may also be observed emotional states producing physiologic effects which are often interpreted as somatic abnormalities.

(On this important, practical subject see also Head's Goulstonian lectures on "Certain Mental Changes That Accompany Visceral Diseases," *Brain,* Vol. XXIV, 1901. I. H. C.)

HUNTINGTON'S CHOREA

The late Dr. Charles B. Dunlap spent considerable time on the pathology of Huntington's Chorea, in an attempt to explain both the motor and psychic manifestations of the disease. His valuable manuscript dealing with this subject has appeared posthumously ("Pathologic Changes in Huntington's Chorea" *Archives of Neurology and Psychiatry,* Dec. 1927, Vol. XVIII, pp. 867-943) and the results of the extensive investigation are thus summarized:—

"It would seem best then, for the present, to leave the question open as to whether (as some believe) the motor disorders in Huntington's chorea depend essentially or wholly on lesions in the cortex. Wilson's cases and Vogt's cases would surely tip the scales in favor of such a correlation, if one could accept as proved their conclusions that in their cases of lenticular disease the whole pallidum and its mechanism are normal. The latter conclusions seem to require further corroboration by others through careful examination. The mentality in Wilson's cases at least was not intact.

"At any rate, my material justifies the assertion that in pure and well developed Huntington's chorea there are constant lesions of definite type in the corpus striatum—and in the cerebral cortex and marrow, and these lesions, if found in the brain unaccompanied by clinical history, are characteristic enough to make a postmortem diagnosis of Huntington's chorea at least probable if not certain, for the peculiar combination of cortical changes and basal nuclear lesions is not, as far as I know, reproduced in any other disease."

MALARIAL TREATMENT OF PARESIS

Ten years have passed since Wagner-Jauregg, who recently won the Nobel prize in medicine, began the treatment of general paralysis with tertian malaria. The results were so favorable that an increasing number of institutions and physicians both here and in Europe, adopted this form of treatment. Some of the first patients who were treated by Wagner-Jauregg with malaria in 1917, are still in the remission of paresis. Drs. Max A. Bahr and W. L. Bruetsch (*American Journal of Psychiatry,* VII, 5, 1928) report the following experience with malarial treatment in a large state institution, carried on during a period of two years.

"Of 100 general paralytic patients, treated with malaria, 25 were able to leave the hospital. Twelve patients improved to such a degree that they can be trusted in an useful occupation in the hospital. Forty patients are placed in the unimproved group. In 32 patients of the latter group the disease is progressing. In 8 instances the disease has remained stationary. Five patients succumbed during the rigors and 18 died following the malaria.

"Serologic changes following malarial treatment occurred in both the improved and unimproved groups. While there was no parallelism between the degree of clinical and serologic

improvement, the percentage of the serologic improvement, particularly as far as the colloidal gold curve was concerned, was higher in the improved groups. The paretic gold curve was reduced in intensity but remained of the paretic type. The conversion of a paretic curve into a true luetic one in these cases was an exception.

"The method of the treatment of general paralysis with malaria is relatively simple compared with the other methods and can easily be carried out in a state institution.

"It cannot be denied that this form of treatment is attended with definite risks for the patient. With a better knowledge of the complications that arise during the rigors, death due to therapeutic malaria will be reduced. If on the other hand, one reviews the fatalities occuring in the course of the specific treatment, particularly with the intraspinal methods one is aware that no treatment is without hazard."

Additional help and information on the subject may be obtained through a study of the brains of those paretic patients who have undergone treatment by malaria and have died either as a result of infection or later from some intercurrent disease. Dr. Walter Freeman made histopathologic observations of a group of paretic cases which had been subjected during life to the malarial treatment (*Journal of American Medical Association*. Vol. 88, April 2, 1927). He summarizes his work as follows:—

"Therapeutic malaria is followed rapidly by organization of the inflammatory exudate in the meninges and about the blood vessels. During the following months the exudates are resorbed and the glia and vascular tissue regress to a great degree. Finally, the cortical architecture is reconstructed by resumed cellular polarity and restored lamination and perhaps by thickening of the cortex. The ganglion cells of the cortex are more or less reduced in number. Fibrous glia beneath the pia and ependyma changes little. Spirochetes are not found.

"On the basis of fifteen cases of general paralysis treated by malaria in which the patients died later, it may be prophesied that eventually the term recovery will come to be used for certain cases instead of remission. Except for some reduction in the number of neurons in the cerebral cortex and marginal fibrillar gliosis, the anatomic picture practically does not deviate from the normal, and the brain is evidently in satisfactory working condition, to judge from histologic appearance. The necessity for early treatment is indicated by complete anatomic arrest without clinical improvement in a case of four years duration before treatment."

SCHIZOPHRENIA

In discussing the complex subject of the hereditary relations in schizophrenia (Schizophrenia (dementia-praecox) *Proc. Asso. Res. Nerv. & Ment. Dis. for 1925*, 1928, 5. 67-93) Dr. A. M. Barrett arrives at the following conclusions:—Statistical evidence and the results of the analyses of individual families in which schizophrenia occurs indicate that heredity is an important factor to be considered in the etiology of schizophrenia. The most frequent tainting factors in schizophrenia are psychoses which are about three times greater than has been found in those who are not schizophrenic. Abnormal character occurs more frequently among the antecedents and members of the families of schizophrenia patients than in any other form of psychoses. Mental abnormalities occur much less frequently among the parents of schizophrenics than in the psychotic in general. Schizophrenia has its heaviest heredity-tainting in antecedents who are in indirect relationship to the patient. The evidence obtained from the application of Mendelian theories to the investigation of the hereditary course of schizophrenia tends to indicate that the transmission of the factors for the creation of the predisposed to schizophrenia follows the course of a Mendelian recessive character. The factor that is transmitted seems to be of complex rather than a simple Mendelian character. Schizoid traits occur so frequently among the members of families in which schizophrenia exists that it is suggested these may stand in some relation to the genetic cause of their disorder. The existence of polymorphous heredity in schizophrenia is neither proved nor disproved. There is no certain evidence that the heredity course in schizophrenia is in any way sex-linked.

In a paper on the treatment of schizophrenia (Schizophrenia (dementia praecox) *Proc. Asso. Res. Nerv. & Mental Dis. for 1925*, 1928, 5. 435-457) Dr. S. W. Hamilton concludes that schizophrenia does not yield itself as an entity to treatment because the disease lacks specificity. Treatment in general is designed to promote as extensive a conservation of the natural interests, activities, ambitions and affections as may be possible. If the knowledge now at hand can be applied in increasing measure to the problem of children, it would seem that the incidence of this disease may some day be greatly diminished. A study of the personality of patients and the mechanisms of the disease is necessary. Nursing is important in the states of negativism, stupor and excitement. Occupation is one of the happiest developments of mental therapeutics. Psychoanalysis is helpful in developing insight, although opinions on the value of analysis differ. Social treatment is very important for the majority of cases. (While the psycho-analytic approach to schizophrenia has not as yet shown the same therapeutic results as in the neuroses, yet it is possible in many instances, that in the types of cases which are accessible to analytical therapy, to arrest that regressive process which is so characteristic of the disease and thus adapt

the patient to a more socially acceptable level. I. H. C.)

CENTRAL NEURITIS

Central neuritis was first described and named by Dr. Adolf Meyer ("On Parenchymatous Systemic Degenerations mainly in the Central Nervous System," *Brain*, Vol. XXIV, 1901.) It was found in the end stages of depressive psychoses of the climacteric period (involution psychoses), in alcoholic senile and alcoholic phthisical cachetic states, idiocy and paresis. The clinical syndrome associated with central neuritis consisted of difficulty of locomotion, increasing weakness for co-ördinated movements, muscular twitchings, rigidity, disorders of the reflexes, diarrhoea and occasional febrile fluctuations. These symptoms appear rather suddenly in the course of certain psychoses, in which there had been no suspicion of a previous organic disorder. The mental state of central neuritis consisted of an anxious, perplexed agitation, delirium or stupor, resembling a protracted case of delirium tremens.

Post-mortem studies have revealed the presence of a central neuritis in alcoholic polyneuritis, cardiogenetic psychoses, epilepsy, involutional melancholia, pellagra, the depressed phase of the manic depressive psychoses, toxic exhaustive psychoses, etc. In a study of twenty-two cases, both clinically and pathologically, Coriat ("The Symptom-Complex of Central Neuritis," *Journal of Nervous and Mental Diseases,*" Vol. XXXVI, 1909) considered the symptom-complex as a terminal phase of a cachectic delirium or depression or it might occur in certain alcoholic psychoses in which the central neuritis changes in the brain developed in place of a peripheral polyneuritis or could be associated with the latter. The presence of the symptoms indicated an invariable fatal termination. It was pointed out that in certain psychoses, the loss in weight, diarrhoea and emaciation reduces the neuron to such a low state of nutrition that it absolutely destroys its reparative power. As a result the entire neuron degenerates and the symptom-complex of central neuritis follows. The nerve cell changes in the disease involve particularly the ganglion cells of the cortex and resemble those found in the cell body of a peripheral neuron after injury to its axon (chromatolysis). The subject is again discussed by Dr. Gerald H. J. Pearson (*Archives of Neurology and Psychiatry*, Vol. XX, No. 2, August, 1928) in which central neuritis is investigated from the standpoints of etiology and diagnosis during life.

The material for this study comprised thirty-one cases with various clinical diagnoses (involutional melancholia, manic depressive psychoses, psychoses with somatic disease, senile dementia, schizophrenia, chronic alcoholism, delirium tremens, pellagra). As a result of this investigation, the following conclusions were drawn:—

"The names applied to this condition—central neuritis and axonal chromatolysis—are misnomers. The former term was used originally to distinguish an involvement of the intramedullary neuronic system from that of the peripheral. If the cell change was retrograde to an axonal injury, the analogy between the two processes would be striking and the term 'central' or better 'intramedullary' neuritis would be justifiable, though a more exact pathologic description would be 'axonal chromatolysis.' The cell change in the condition under discussion is a primary one, although eventually the whole neuron becomes diseased, so that these terms are all incorrect. Central chromatolysis, if 'central' is used to describe the location in the cell in which the change is most marked, is better, but as the change following injury to the axon occurs first in the same place, this name does not differentiate this process from axonal chromatolysis. As I believe that the chromatolysis is an autolytic process due to isolation of the neuron from its food supply and is caused by some physicochemical disturbance, I would suggest the name primary cytolytic degeneration.

"Central neuritis is a disease of the large and medium-sized pyramidal cells of the cerebral cortex. The cell body is swollen, the Nissl substance dissolved and the nucleus displaced. In severe forms the neurofibrils degenerate, the nucleus is extruded and the cell dies. Degenerative changes are found in the axons. In some cases the glia is affected.

"Thirty-one cases of central neuritis were found among more than 1,000 consecutive necropsies. These cases were distributed among the following clinical diagnoses: involutional melancholia, two cases; manic-depressive psychosis, depressed type, two; manic-depressive psychoses, mixed type, two; toxic-exhaustive psychosis, one; psychosis with somatic disease, five; senile dementia, one; schizophrenia paranoid type, one; chronic alcoholism, four; delirium tremens, two; pellagra, nine; pellagroid syndrome, one; and epilepsy, one. Only in pellagra, however, was the pathologic change found in every patient examined. A study of the clinical symptomatology indicates that the presence of central neuritis cannot be determined during life. Central neuritis is not a prelethal condition nor does it seem to be caused by axonal injury, infection, starvation, exogenous or known endogenous toxins. There are some facts to substantiate the view that it results from some disturbance of the finer metabolic process, and the theory is advanced that some disturbance of the more delicate processes of metabolism prevents the cell from extracting nutritive material from the tissue juices. Autometabolism occurs, and if the process is severe the nucleus is extruded and the cell dies.

"Further investigation into the etiology of the condition should be conducted along intensive physico-chemical and metabolic lines. The names applied to the condition—central neuritis and axonal chromatolysis—are misnomers. A better name would be primary cytolytic degeneration."

The syndrome of central neuritis may therefore be classified into three groups of symptoms, viz:—

1. *Neurologic Symptoms* — These depend upon a disturbance of function of the neurons, particularly those of the cortico-spinal system, and comprise difficulty of locomotion, jacitations of the limbs, rigidity, and alteration in the reflexes.

2. *Systemic Symptoms*—such as diarrhoea, emaciation and fever.

3. *Mental Symptoms.* The mental symptoms of anxious perplexed agitation, delirium or stupor were not found consistently in Pearson's observations and when present were those of the symptom-complex in which the case belonged.

MENTAL CONDITIONS IN THE AGED

In an effort to catalogue the mental states of the senium in order to clarify a subject which has been the subject of much confusion Drs. Rhein, Winkleman and Patten (*Archives of Neurology and Psychiatry*, Vol. XX, No. 2, August, 1928) reviewed about five-hundred cases from the organic standpoint, about one-hundred of these being selected as a basis for the report. They conclude as follows:—

"If conclusions are based on the postmortem studies of persons with 'senility' the mental changes of the aged may be divided into four groups and given a clinical appelation that coincides with the pathologic change.

"The first group, in which the larger vessels showed the predominant change with a more or less uniform appearance of gross areas of softening, is to be distinguished clinically by comparatively sudden onsets of either mental or neurologic symptoms in persons who have been known to be either entirely healthy or else definitely arterio-sclerotic. Hemiplegia is the commonest organic symptom, and the usual mental picture is that of deterioration. In view of these facts, it might be well to call this type arteriosclerotic deterioration, taking it definitely out of the heterogenous group of 'senile dementia.'

"In the second group, in which the small vessels are mainly involved, the patients are usually admitted to the psychopathic wards when they come to the hospital. They have gradually become demented, the relatives applying the term 'second childhood' to the condition. While a definite history of 'apoplexy' cannot be obtained as a rule, an exhaustive anamnesis will show that there were more or less sudden attacks from which the patient made only a partial recovery. These attacks were repeated and though they are only minor, the dementia progresses in steps like going down a ladder. Anatomically, few of these cases show gross areas of softening, and even the large vessels may appear practically normal. Microscopic examinations, however, reveal multiple miliary areas of softening scattered throughout the brain. In view of the character of the onset and the clinical course, the group should be designated progressive arteriosclerotic psychosis.

"In the third group, which is a combination pathologically and clinically of the other two, there occur both deterioration and dementia, sudden apoplectiform attacks and minor mental attacks with both gross and microscopic areas of softening. This group should be called arteriosclerotic dementia.

"In the fourth group in which the vessels show only a fibrosis, the anatomicohistologic changes are comparable to the involutional changes found in other organs of the body. The patient preserves his mental faculties to the end, and death is usually brought about through some visceral disease. Marked dementia or deterioration is not found, and areas of softening are not found on gross or on microscopic examination. There may be, however, some reduction in mental energy qualitatively and quantitatively, but this is definitely proportionate to the senile changes that are found elsewhere. This condition in this group consequently should be termed senility."

SING SING CLINIC A GOING CONCERN

Preliminary reports from Sing Sing Prison indicate that the work of the Psychiatric Classification Clinic, established there early last year as a result of the now memorable study of the psychopathology of crime made by Dr. Bernard Glueck under the auspices of the National Committee for Mental Hygiene, has been successfully launched. Dr. Raymond F. C. Kieb, Commissioner of Correction for New York State, declares that "the work of the department is a very essential part of the individual study given each prisoner as he comes to Sing Sing and has gone on effectively and satisfactorily in spite of many handicaps, administrative and budgetary." Warden Lewis E. Lawes also has expressed satisfaction with the progress made during the short time the clinic has been in operation.

In addition to routine examinations during the year ending June 20, 1928, the clinic made special examinations of 827 prisoners. Of these cases 18.3 per cent. were found mentally defective; 3.3 per cent. insane and only 25.6 per cent. normal. The remainder were distributed among various pathological groups ranging from those indicating slight deviations from normality to those bordering on the psychoses. The department was organized by Dr. Amos T. Baker, a nationally known psychiatric authority in criminology. Two assistants, a psychiatrist and a psychologist together with two field workers and two stenographers, comprise the remainder of the staff.—*Mental Hygiene Bulletin.*

VERMONT STATE MEDICAL SOCIETY

RURAL MEDICAL PROBLEMS IN VERMONT

DURING the sessions of the House of Delegates of the American Medical Association in Minneapolis in June 1928, when the matter of Rural Medical Practice was under discussion, one member remarked that it was a matter for consideration by smaller units, such as the state and county societies, and consequently during the summer personal conferences were held and correspondence conducted between the officers of the Vermont State Grange and the Vermont State Medical Society with a view that a representative from each body should present the matter at the annual meeting of the other society. The entire subject matter appears in this issue.

As a result Mr. Guy B. Horton of Montpelier, lecturer of the Grange, presented the matter at the annual meeting of the Vermont State Medical Society and his paper was discussed at considerable length. Dr. J. N. Jenne of Burlington, Dean of the College of Medicine of the University of Vermont, represented the State Medical Society and presented the subject at the annual meeting of the Vermont State Grange. The session of the Grange at which this was presented consisted of a fixed program and there was no general discussion.

No official action has occurred but there is no doubt but that the Vermont State Grange, the Vermont State Medical Society and the College of Medicine of the University of Vermont possess today a better mutual understanding, both of the problem itself and of its relation to each particular group. The officers of the Vermont State Medical Society feel that this has been a successful proceeding and recommend the same to other state societies for consideration.

WILLIAM G. RICKER, *Secretary,*
Vermont State Medical Society.

THE SITUATION IN RURAL DISTRICTS AS REGARDS MEDICAL SERVICES

BY MR. GUY B. HORTON*

Mr. President and Members of the Vermont State Medical Society:

"With the possible exception of two counties, there is no section of the state but has localities wherein is felt the great need of a resident physician".

SO wrote Dr. Kent in 1925 in an article bearing as its title the still more startling fact that 116 Vermont towns have no resident physician. This means that all of the 490 men actively engaged in practice of medicine are located in the other 137 towns and cities. The increase in unsupplied towns was 21 in 5 years. Other significant facts brought out by him are: those in the smaller towns are quite a little older than those in villages and cities and replacement by young men is much less. Only about one-fifth of the graduates of our medical college locate in Vermont and the larger places claim most of these.

The explanation most commonly given for the decline in number of doctors in the state is the increased cost of preparation in time and money as compared with other methods of earning a living. I think all will agree that the return for goods or service must be greater than the cost of production if that business or profession is to exist long. When the margin becomes small, the price must be increased or the cost reduced. Business has made its most marvelous advance in recent years through cost reduction, the professions, yours to a considerable degree, have attempted solution by increasing the price. But there is a limit to what the market will bear even in a matter so serious as health and life, and the public struggles to escape through unorthodox methods of healing, free hospital and nurse service, or delay in seeking medical advice.

The rising cost of medical service has begun to attract attention in many quarters, as this editorial in the *Ladies Home Journal:*

"In recent years we have come to a point where only the very rich or the very poor can afford to be ill. The rich because they can pay the high charges of highly trained physicians and surgeons and hospitals. The poor because they can command equally trained services in clinics and free hospital wards."

The public cannot be convinced that the increased time and money cost of medical education is entirely justified or that it is not in part due to excessive specialization. There is need for the general practitioner as well as the specialist—in fact the latter in any profession or business cannot stand alone. On the other hand, the general doctor must have at his disposal the aid of a specialist. The point is that society needs both, and is developing both, in

*For record and address of author see "This Week's Issue," page 1115.

other fields of porfessional work—law, education, etc. In fact this probably applies to farming itself, though that business now suffers from too little specialization. There is little place in the country for the intensively trained man. Probably 90% of illnesses and injuries can be adequately treated by men of general knowledge and experience as they have been in the past. For difficult and unusual cases which make up the other 10%, the assistance of urban facilities of hospital and specialist is available in most instances and can be made more so. This is the kind of efficient co-öperation and division of labor that practical men should work out and are working out in other lines.

Let it be emphasized that we are not advocating a lowering of medical standards. No one desires poor doctors for poor people. I submit that unless this tendency to higher cost is checked, we will have contract medical service, social insurance, and state medicine.

There are other factors which tempt to city life. Doctors prefer the larger communities for the same reason that farmers prefer them: to earn more, to obtain better social and educational facilities, and a less arduous life. The doctor has followed the trend of population, that is all. If farmers whose living costs less than any other class, because they produce a good share of it, cannot, or feel that they cannot, continue the fight for a living in the country as hundreds of deserted houses on the back roads testify, the doctor certainly cannot. The problem, is first of all economic. If rural dwellers are prosperous, physicians in the long run will be found in their midst, provided, the cost of training be not too large, and competition from nearby centers not too great. This is not the only problem that would be solved by a return of prosperity to the country-side.

I say "provided competition from nearby centers be not too great". Right here the loss has come in many towns and perhaps it should. Those in close connection by good roads with a larger community can best be served from that center. The automobile and improved roads have vastly increased the service to be rendered by every physician and adequate coverage of the state's needs can be had with fewer men as time goes on, assuming population remains substantially the same. As in other lines, improved tools and facilities give greater results with fewer workers. But back roads will continue to be well nigh impassable a part of the year, and not all main roads will be kept open in winter. In such times a town might as well be fifty miles away so far as reaching the bedside in time is concerned. Furthermore, that is just the time of year when the men in the larger centers have their hands full without going out of town.

The most serious result of this competition comes in those towns within convenient distance in good weather and beyond that in time of bad traveling. Those communities which patronize the local doctor in bad weather only to pass him by when access to the larger town is possible, will sooner or later find themselves without such help, and rightly so. Only by loyal support through the year will they keep what they have. The crux of one large phase of the problem is right there.

Albany Medical College is raising an endowment primarily for the purpose of training physicians for the rural communities of New York, with this avowed program:

1. To train students primarily for general practice and properly fit them at moderate cost.
2. To provide its graduates and other hospital internes with information concerning locations where physicians are needed.
3. To inform rural communities by suitable publicity of the advantages of employing the local physician.

Subsidy (I would call it a fee of retainer) by town or village, as authorized by statute, may be helpful in some cases though the plan has not been very successful so far in this state. Isle La Motte has a standing offer of $1,000 a year, but no takers. In Bennington county, one town has contracted with a physician to maintain an office in the town and be present at least once a week, and another town pays the excess mileage charged within the town by a doctor from another center. Better success has been had in Maine where bonuses of $600 and $4000 a year are paid. A town which is able to offer a substantial bonus is likely to be prosperous enough to tempt a physician anyway, provided it promises to be loyal to him. School and public health work by the person thus under retainer, will be a tangible return for part of this gift.

SUGGESTED REMEDIES

1. A more general training as distinguished from a specialized one. This should cut at least a year from the time cost and a substantial sum from the money cost.
2. Establish hospitals in smaller well-located communities, as has been done in Middlebury. This will not only create laboratory and clinical centers and gradually bring all the state within shorter distance of expert treatment, but will create a colony of trained and ambitious physicians. Such hospitals may be established and maintained by local funds and endowment by public-spirited citizens.
3. In a carefully organized way create sentiment restoring the country practitioner to his former relative standing in the profession and community, and emphasize as a fact the lower cost of living in the smaller communities as making less income equivalent to that received by his city brothers. In other words, convince in advance, what not a few practitioners have found, that the greater fame and life savings are not always found in the city. Why not preach the back-to-the-country doctrine to physicians as well as to would-be farmers?
4. Create in rural dwellers a better loyalty to the physicians they have or may obtain. This task belongs to the grange and similar organiza-

tions. The medical society can well initiate it by detailing members to attend meetings of those organizations to discuss this important factor.

5. Systematically bring the opportunities in selected communities to attention of recent graduated and older men who may be rurally minded. This might even include advertising such communities as is done by Maine.
6. Make more use of the provision for town subsidy for physicians locating in midst. This may well be carried out in connection with the previous suggestions.
7. Expand the idea of district nursing. These assistants to the doctors can accomplish much of the work and render first aid in emergencies of accident and illness until a physician from a distance can reach the case or the patient be gotten to a hospital. Such a nurse, by use of a physician's advice over the telephone, may often make the long trip by a doctor unnecessary. Arrange a one-year course in the medical college for such assistants to qualify them for temporary treatment of simple ills and injuries, under supervision of a licensed physician if need be. Without question, some form of community nursing must be the nearest approach to local medical service in many Vermont towns.
8. Increase the size of the scholarships given by the state at our College of Medicine, on condition that holder agrees to practice in Vermont one year or more for each year's payment. If such beneficiaries of the state tend to settle in the larger places, require them to pay back part of amount received. Let those who receive the state's bounty serve where the state most needs.
9. Let the Vermont College of Medicine devote itself to educate for general practice primarily. A similar purpose might restore the Dartmouth School to full usefulness, and enable the two institutions to supply the needs of the three northern New England States.

In the language of the memorial of the National Grange to the American Medical Association which inspired this discussion, I express the hope that your organization, to which the people have been accustomed to look for leadership in medical affairs, may recognize the urgent need of the reforms suggested and strive for their realization.

Discussion

President Eddy: We certainly are much indebted to Mr. Horton for helping us see ourselves in our problems as others see us. We need a change, an outside viewpoint, which is bound to be valuable. The discussion of these papers will be led by Dr. E. A. Tobin. (Dr. Tobin not present.) Is Dr. Burbank, of Cabot, here?

Dr. L. W. Burbank: I have been much pleased to hear Dr. Perkins and Mr. Horton discuss these subjects so closely connected with my own work and people. As I knew very little about what Dr. Perkins would say and cannot think and talk at the same time, I will discuss the subject, so ably handled by the representative of several thousand of the best and most useful of Vermont's citizens.

I grew up on a farm in the mountain town of Walden. I attended small town schools, a small academy and small colleges. I came four miles down the mountainside to the little village of Cabot,—where for a third of a century I have led a happy, contented, and I believe, useful life. I have had the average ability and success of Vermont's country doctors. I was in medical college when they began to teach that filth was the cause of many diseases; and that consumption was more often acquired by contact than by heredity.

Everyone in Cabot knew that I had been a farm laborer every summer during my college work, so I had plenty of time to explain the relation of the old slophole and the open privy to cholera infantum and the summer diarrhoeas. There was much time to convince the mother-to-be that a few pieces of clean cloth and clean hands would prevent childbed fever. They soon agreed that the consumptive should have the best room in the house or should be out-of-doors.

For twenty-five years I cared for all the fractures of about eight hundred people. Then the fear of lawsuits and the growing popularity of the city doctors took from me the bad fractures.

I had never heard of Dr. Freud or psychoanalysis. I would not have known a libido if I had met one on the street. Yet, if one of my loyal patients did not respond to treatment, and there was no physical cause to prevent recovery, I could shoo the family out of the room and secure a true story.

I attended over seven hundred childbirths with a maternity mortality of less than 1 per cent. Two women had childbed fever. Both recovered. There were one or more doctors in every village like Cabot. We cared for the poor free. We also cared for the pay patient. Eighty per cent. of all the money paid by Cabot people to doctors was paid in Cabot. Now eighty per cent. of the cost of sickness is paid for out of town doctors, transportation and board.

The only hospital was at Burlington and was for the poor. Now there are many hospitals and they are for Cabot's pay patients.

In 1890 a farmer's boy of ordinary ability or the son of a village merchant, preacher or mechanic, could secure his medical degree by his own efforts, and commence practice at twenty-one or twenty-two years of age. He was glad to do his chosen work among his own kind of people. If he was not a good doctor he could change to some other work and not be too old to succeed. If very successful, he could move to a larger town. There he usually made good.

About 1900 began the long drive to kill the country doctor and have the pay patient come to the city for treatment. It was much easier to visit one's patients in rooms along the hospital corridor than to go to their more or less distant homes. As long as the small medical colleges existed, there would be country doctors. Therefore, they must be killed. A medical col-

lege is a factory. Its raw material is the young man. Its more or less finished product is the new doctor. Two things must be done. First, cut off the supply of raw material. Second, stop the market for the product.

The Council on Medical Education was formed in 1904. They surveyed and classified the 160 medical colleges in America and decided to kill 100. Their attack on the small college and the country doctor was direct, brutal and useless.

About 1908 the Council asked help from the Carnegie Foundation, which was then assuming the management of educational affairs of the United States. That and some other big foundations were specialists in surveying, classifying and standardizing. They surveyed and classified the medical colleges. The Carnegie Foundation, in 1910, advised that 120 of them, including the one in this city, be "wiped off the map". That would have left 31 colleges. The same year the Carnegie Foundation advised that when two of us died, one new doctor be allowed to take our places. Brutality and directness gave place to methods having the smoothness of oil and the cutting edge of steel. With the income from untold millions to be used for propaganda, pensions and endowments, they made progress.

The words "Country Doctor" disappeared and instead came "family doctor" or "general practitioner". With the number of colleges now reduced to about seventy, the killing process is as active as ever.

When seven of the most productive years of a man's life and ten thousand dollars in money were added to the cost of a degree in medicine, the door of the medical college was forever closed to the boys of my native hills. When the nurses' training schools had been surveyed, classified and standardized till ordinary nursing service cost one hundred dollars per week the people of Cabot were denied the help of a trained nurse.

On the first page of the leading article in America's chief medical journal, January 2, 1926, the idea is developed that most women attended by us, die of childbed fever. In view of the fact that Dr. Corson, now of Plainfield, and I have cared for 1000 childbirths with only three cases of chilbed fever, none of which died,—I think that such propaganda is unfair.

In 1924 the Dean of one of New York's medical colleges claimed that a poor boy should be discouraged if he wants to study medicine, because he usually lacks culture and refinement, also that he lacks the background of good breeding.

Following the successful efforts of the steel and oil foundations, thousands of smaller uplift groups have been formed. Most of them have some part in the preservation of health and the restoration to health. Each one of them, in order to justify its own existence, must make prominent our failings. In the past these people have done very little constructive work in Cabot. They come when the roads are good, in June, and disappear when the mud comes in October. They must have enough information about us so that they can help much in the near future.

The most serious thought I have to offer you is that notwithstanding our advanced knowledge concerning the prevention and cure of disease, we are not gaining in our results in maternal work, nor in the prevention and care of "Flu", pneumonia, and similar diseases.

The new doctor knows much more about sickness than we do, but my people cannot have him. The reason why we are not gaining in these things is that we have destroyed the confidence of the people in the family physician, and have offered no substitute.

Country doctors are now fifty-five years of age. When four or five of us die or move away, one comes to fill the gap. In a dozen years there will be no country doctors. I believe that in the not distant future, the capacity of the pay hospitals will be doubled. The more expensive sickness in the home can be made, the better for the hospitals and the doctors allowed to care for the patients in those hospitals. Eighty-five per cent. of the value of a doctor's services to his patient is along the line of psychology and hygiene. When we destroy the confidence of people in their local physician, we destroy eighty-five per cent. of his usefulness to the community.

I try not to say these things complainingly. I ask no favors for what few of us there are left. But, in the interest of my people who are too poor to have better service, I ask that the campaign against us be called off.

DR. ROGERS: I have the same trouble that the previous speaker claims, only he belies his statement. I cannot talk and think, but he thinks all the time whether he is talking, writing, or waiting.

I don't think we will have a paper before this meeting that runs so great a range of thought as Dr. Burbank's.

However, I cannot get the gloomy idea about Vermont as expressed by Dr. Perkins and Dr. Burbank.

I am glad these people are coming up here to put us in the proverbial fish bowl and look at us. I have been in this state fifteen years and belong to nearly everything except a Hoover Club. My work in tuberculosis takes me all over the state, the Board of Health work brings me in contact with other groups. I see both laymen and doctors and, having lived in three other states, I don't think we are so badly off.

I cannot get morbid about the country doctor. I listened to Dr. Burbank's paper and he almost moved me to tears, but I don't think we are in a a terrible fix, for we have one doctor to every

453 population and there are many states where the ratio is one to 700.

He is definitely right when he points out the increased cost of medical preparation, but there is more money in circulation today than in 1890. There are more students asking for admission than in 1890, and in spite of the high cost a poor boy can get through college.

Dr. Burbank does not want two more men in his district. If three men were up there they would have to take up farming or some other business.

I would make this criticism of the country doctor. He works too hard and too steadily, doesn't send out bills, collects too poorly, and doesn't get away from his grind often enough. He ought to charge more and get away from his precinct at least one month each year. His patients will gladly pay for the time spent on vacation or at clinics. People have more money now and they are willing to pay the doctor.

Most of the back districts can be reached by automobiles and the roads are now being kept open in winter. I think we should not be sorry for ourselves. I can't be very sorry for the fellow who comes down from Canada and raises more children, more milk and more potatoes than his neighbor who went to a factory town. And, lastly, when Dr. Perkins gets this state so fine that he has only good and perfect people in it, I am going to leave.

Dr. W. S. Nay: I am glad we have a representative, like Dr. Burbank, of the old country physician, to speak to us today, for he has told some facts with which probably quite a number are not familiar. It has been my privilege to be in active country practice for almost fifty years, and in my position as secretary of the State Board of Medical Registration perhaps I am in a position to know something about the prospects of a new doctor, or doctors, settling in country places. Perhaps I may not be sympathetic enough, but I have had quite a number of physicians come to my office who have been inquirers as to a place where they might settle as practitioners in medicine, and invariably I have come to the conclusion that those who won't go to the country places are too indifferent to the needs of our country people to do the work. They don't want to do the work that Dr. Burbank, Dr. Jenne and myself, and others, have done in earlier days, but they want to sit in the office and let the patients come to them. Some of the best openings in this state are in Chittenden County. There are six towns in this county that are without a physician. My own town has no physician. We have two physicians in Jericho, but the towns of Westford, Hinesburg, Richmond and Williston have none, and there are no better places for a practitioner, in this state, than they are. Unfortunately, a young doctor feels that he cannot go unless he gets his pay. I don't boast of it, but in all my years of practice I never refused to go if I thought I wouldn't get a cent. I took into consideration the poor, sick child, and the sick mother, who were not to blame for the sins of the father, and it is unfortunate that there are those that won't go simply because they think they won't be paid. Indirectly they are paid, and liberally, too.

As far as the prospect is concerned, I think the young man going into a place the size of these towns, might be possibly induced to go if there was a possibility of there being a small hospital established. The first question is, How near are we to a hospital? Unfortunately some towns have not the facilities for hospitals. I have often wondered, and already mention has been made of the American Medical Association, and what it dictates, and the Council of Education, towards the elimination of certain colleges, etc. The larger number have been eliminated, and some of those now existing, including the Vermont Medical College, have had to sit up nights to see what they have to do to please the American Medical Association. They have counted out Dartmouth, and that institution could accommodate the poor young man if it were re-instated. It is unfortunate that an outside, voluntary organization should dictate to the people in our community what they shall do, or else they won't be recognized as a medical institution. I feel that the young man, once outside the city, in a rural community, would be better satisfied than if he settled in the city. The young physician in a small community is the most respected man in his community. He is looked up to and considered a competent adviser. It costs him less to live, and he does not need to earn as much money as he does in the city. If some of the Burlington doctors could go into the country towns they would be independent in a short time, and would be well compensated, and do their work easier. They wouldn't have to work as hard as they did in my early day. At first I drove a horse continuously, but now the privileges are so much greater that the young man locating in the country town, has most of the advantages that the city man has, and has the benefits of the hospitals within 15 or 20 miles.

Dr. J. N. Jenne: *Mr. Chairman, Ladies and Gentlemen*—I shall not consume much time in offering the few remarks that I have in mind, because, as you know, it is a very intricate problem with many phases and features, a discussion of which might consume more time than we have at our disposal.

I want to add a little emphasis to the opinion that has been expressed that the situation with respect to the rural physician is by no means solely an educational matter. There are fewer

physicians in the country towns, not solely because higher educational requirements have deterred young men from taking up the study of medicine, although it is an important element. I am not willing to admit that a doctor's absence from a town is always to the town's disadvantage. Going back in the history of medical education thirty years, we will find that there were about one hundred and sixty so called Medical Colleges in the United States, fully thirty per cent. of which were frankly fraudulent or of a very low grade. Their graduates constituted probably as large a per cent. of our physicians then in practice as their colleges did of all colleges.

It seems certain that there never was a time in the history of the country when there were as many really well-trained, competent young men being graduated annually as at the present time. The people in the rural towns are not driving 1900 model automobiles today, and I doubt their accepting a 1900 model doctor. I do not believe the rural towns want doctors sent out to practice in their midst that must be labeled "Number Two".

There are no figures that I can quote to sustain my statement, but I feel safe in saying that the country born and bred young man, after he is graduated, shows no greater disposition to locate in the rural towns than does the city bred man.

With reference to the allegation that the higher cost of his education has deterred the poor country boy from taking up the study of medicine, I would say that the records of the College of Medicine of Vermont apparently show that the per cent. of young men coming from the rural towns of Vermont has increased of late, rather than diminished. This may be, and I think is, chiefly due to the fact that we are now giving preference to Vermont boys over those from other states.

The fact should not be overlooked that in spite of the higher qualifications required for admission to the Colleges of Medicine throughout the country, the number of students entering them has increased yearly since 1914, except for a short period during the war.

Another fact to be taken into consideration is that the specialties, Boards of Health, hospitals and other public service agencies have absorbed the product of the colleges to a larger extent than hitherto, during the past twenty years, and when they have reached the saturation point the surplus will be diverted to other channels, perhaps to the rural towns.

The College of Medicine of the University of Vermont has long been cognizant of the movement of medical men from the rural to the urban towns of late, and is exerting itself to stay the movement.

This year witnesses the innovation of sending out each of the Senior students to selected preceptors—country doctors—for a term of duty. It is hoped that this will introduce the student to a country practice under so favorable auspices that he will finally locate in the country. It, moreover, links up the country doctor with the college and to some extent mitigates the evils of the isolation, which drives many a country doctor after a few years, to the city.

It is even more important to keep a physician who has already located in a town, than it is to induce him to locate in the first place.

Finally, the profession of medicine at large—the Council of Education of the American Medical Association and the Medical Colleges have expressed their attitude most equivocally against undergraduate schools attempting to graduate specialists, and as frankly against any course which would tend to lower the educational standards of the general practitioner.

The status of the country doctor is almost wholly determined by the community in which he practices and by himself. If he has fallen from his former high place, it is in the estimation of his clientele, and not because he is less well qualified to practice his art, or less worthy of its confidence.

If some of his patients go further and seek more expert counsel at times in their illnesses, and the physician finds his income, always modest, if not meager, curtailed by that much, is it not to be expected that he would seek another and more desirable field? I commend the author of the paper for his frank and just remarks upon the subject, and I commend him for, and give my unqualified approval to his suggestions, namely, to increase the amount of scholarships offered by the state; to encourage the creation of small hospitals by towns or groups of towns, and to give subsidies for a term of years and of sufficient amount. Do each and all of these things, and then put the doctor at the head of the organization—a real town or community health center, and then give him loyal, personal and community support.

DR. T. S. BROWN: In connection with the cost of medical care today there is one thing I would like to call to the attention of the doctors. There is a good deal of "keeping up with Lizzie" in the things patients demand in the way of care. I happen to be in the hospital and have a chance to see what patients demand. They will have the best of care at $35 a week, but will demand at least one special nurse at $35, plus $7 for board, makes $42. Two of them cost $84. Seven out of every ten private patients will insist upon having an increase of $84 for care. If you doctors would say to your patients, "You don't need a special nurse, not even for the first two or three nights", it would reduce this cost. Why? Because, if they have a special nurse for one night they think they have to have one for two weeks. That is where a large part of the increased cost of medical care comes in.

Referring to Dr. Burbank's paper, a doctor must love the country, as Dr. Burbank does, or else he won't go there. Economics isn't going to solve that problem. It is what a man really wants to do.

DR. J. H. BLODGETT: I feel that the discussion is taking a bit of a wrong slant. Practically every man whom I am facing at this moment is a country practitioner in Vermont. If this statement be challenged, it is certainly true that all of us are doing some country work and hence we are all involved in this subject.

I came this morning especially to hear Mr. Lawrence deliver his address, but in his stead I find Mr. Guy B. Horton, whose ability and intellect we all admire, and in addition he is a personal friend, so I do not feel that he can be taken to task for the Vermont farmer in our legislature.

In 1925 I went to the legislature with bills in my grip to help remedy the problem which we are discussing. The majority vote in the House of Representatives in Vermont is in the hands of the farmer and he is responsible for measures which pass the house, even though he attempts to deny that charge. During the entire session the President of the Farmers' Club was abusive and by his acts made it impossible for me to introduce these measures with any hope of a possible favorable outcome.

In my judgment the country district is largely to blame for having lost its physicians. They would have stayed in the country district had they been treated properly financially and with due regard to the ancient and honorable standing of the medical profession. There are two features which I feel must be eliminated if there is ever to be a return of the so-called family physician. First, the influence which is being exerted through the American Medical Association and the Council which is ever raising the standard of requirements for the regular physician, has got to quit and give some of the colleges located in the country a chance to graduate more men. And secondly, in Vermont, the farmer vote, as represented in the Legislature, has admitted to practice, on the same terms practically as the general practitioner, the Chiropractor, who has a six weeks' training and the Osteopath, with a little better training. The country doctor is being crushed between these two forces.

The American College of Surgeons is now attempting to kill off the surgeon and the small hospital with which he is associated by insisting on standards which it is possible for only the large city hospital to maintain. When it is not possible in Vermont to earn six per cent. net on the amount invested in your education add in your plant, with no return whatsoever for your own work and that of your family, there never can be any expectation of well trained men again going into the country. If the country district has any hope of securing a man it will have at least to give the doctor his former standing in the community. And, second, it will have to set up some sort of a credit organization so there may be a reasonable certainty that his earnings will be paid to him.

DR. A. L. PATCH: There has been quite a lot said about the loyalty of the people to the physician in their locality. It is a thing I have thought over a good deal in the last few years I have been in Vermont. I have enjoyed Vermont and apparently the people have enjoyed me. My feeling is that loyalty on the part of a community to its local doctor is influenced by two important things: (1). A physician should present himself well trained. (2). He must be loyal to the locality he has decided to serve. If the physician presents these two qualities his community will be loyal to him.

DR. W. S. THAYER: I am afraid I don't feel like saying very much. It is naturally an exceedingly difficult problem and one in which one's sympathies are on all sides of the question. In the first place I believe very strongly it is a problem in which it is utterly impossible to turn upon any one group, or person, and blame them for conditions that exist, for those conditions are bound up in all sorts of questions for which no one group is responsible, and almost every group mentioned has been pursuing its efforts with equally altruistic ideas. I was much interested in Dr. Burbank's remarks, and if he thinks that anybody with any kind of ideals would ever take a step, purposely, to shut out of medicine a man of his type, he must be mad if he could think of such a thing, and he is not mad. He is the type of man that everybody longs for in medicine, and if the changes, the increasing of standards in schools, have made it harder for some fine fellows, such as he, to come in, there is another side to the question, which overweighs those things. If he could see the kind of men, the overwhelming majority of men of an entirely different type, that the improvement of standards has shut out, he would realize why the Committee on Education, of the American Medical Association, try hard to get rid of them. In the large centers of population and in the smaller centers, the country was flooded with individuals of a different type, who had an education in smaller schools. All I want to say is that the efforts of that committee were purely altruistic, and nobody had a feeling against this or that, or any other man, and I think it is generally felt, as in all human affairs, the pendulum swings, and the pendulum has swung much too far in the direction of standardization, and if there is any subject I have heard talked about in the American Medical Association, it is the effort to get rid of attempts at standardization, and to put the medical school in a position where it can serve its own special ends.

And then one more thing, the one thing that hits at the central part of this whole problem,

and again is not any one person's fault. The advances in our medical knowledge have gone on, within the past 40 or 50 years, at such an enormous rate that in our schools of medicine, with a rigid four years' course, the amount that the student has to learn, that he ought to learn something about, has become so great that he cannot possibly attempt to cover the ground that many schools demand of him, in an intelligent way, and more than that, the necessity of learning something about all sorts of new methods of exploration has been so great that I feel very strongly that in most of our schools of medicine today something has got to be done to make it possible to divide the matter,—the necessary, basic, simple, central methods of exploration and treatment, and that something must be done to save the student from losing the relations between that which is necessary and fundamental, and that which is complementary and highly desirable. There is absolutely no question that the practice of general medicine, the general practice of medicine and surgery, is by far the most difficult province of medicine. The specialty, in the vast majority of instances today is on some one thing, the practice of a specialty is on something occupied by a very superior man, of whom superior qualities are demanded, but the qualities demanded of a man doing work like Dr. Burbank, demand far more of a man than any specialty that I know, and those young men turning to the specialties are not the best men in the medical schools. They are the men seeking the path of least resistance. The difficult path is the path of the general practitioner.

Just how the problem of better care for rural districts is to be obtained, I am sure I don't know. Just how far we can remedy the deplorable condition of people in the country districts I am not sure. In some districts conditions are better than they used to be, and in others, not so good. But, I think it is a problem that is so actively in the minds of so many, and so many organizations, it is before our minds more than almost anything else. I am optimistic enough to feel that with the improvement in transportation, and with the general improvements in the country life, that those matters are going to settle themselves more and more, and I personally feel that the establishment of local and country hospitals, bringing, as they often do, opportunities for operations and work by men unfit to do them, are perhaps dangerous in that way, I think that in the long run all those things will be adjusted and we can do better work, and I think the establishment of local hospitals is the most important feature of the whole thing.

I always feel a little impatient at the idea that every doctor thinks he works harder than every other. There is not any difference in the way in which a country practitioner and the man practising in the city, if each is a conscientious man, works. I know perfectly well that some of my colleagues, and I know that I myself, work just as hard as I possibly can, and a great deal harder, and I don't know any difference. Everybody thinks his neighbor has an easier time than he has. I have often wished I could have a year and work as a country doctor. I know that the country doctor always wishes he might live as I do. I remember a distinguished physician in Rome who had been in New York, and after dinner he said, "I have just been talking with men in New York, and they all said, what do you think of this life here, don't you think it is terrible, the strain of a doctor's life?" He said, "the life of a physician who is interested and conscientious about his work is just about the same life whether he is in New York or Poland or Rome."

MR. HORTON: It is very gratifying at least to find myself in the companionship of the head of the American Medical Association in this apparent minority.

Just three brief things. I regret, but it was not my fault, that you should not have had the representative of the Grange that you wished. I regret, too, that I am not able to come with the qualifications that the gentleman from Cabot outlined the representative of our organization should have, but I assure him if he will come with me to my home he will receive a good farm dinner, and as soon as I can get my overalls on I will show him farming with as much dirt in it as he wants to see.

It would be very gratifying to the leaders of our organization if we felt that we had the influence in the legislature that has been ascribed to us, but, by sad experience, we have found it otherwise, and I have in mind several things that we attempted to do and were out-voted. Even if it were so, in these technical matters we have been obliged to rely for our guidance upon you who know about them, and if in voting, in the past, on these matters, that you refer to, we have made a mistake, may it not be due to our counsellors and not ourselves?

Third, I don't think there is very much difference, in the end, between the position of the Doctor from Cabot, and the representative of our organization. I think at least 90% of the suggestions made are in absolute accord with the position taken by him. And I wonder,—and I say this in the highest respect,—if the discussion was not based upon what was expected would be the recommendations, and not upon what they actually were.

WHY THE SITUATION IN THE RURAL DISTRICTS AS REGARDS MEDICAL SERVICE?*

BY J. N. JENNE, M.D.†

Mr. President, Members of the Vermont State Grange, Ladies and Gentlemen:

FIRST of all, I desire to do myself the justice of acknowledging my deep sense of appreciation for the honor bestowed upon me in giving me the opportunity to address this assembly. I do not know who was responsible for initiating the movement to bring the member of this order and the physicians of this state together, but whoever he was, he deserves the thanks and commendations of both. The fine spirit that incited the movement augurs well for the final and just settlement of a difficult problem that is of vital interest to all good citizens.

Though I am not particularly proud of them, perhaps I should present my credentials as a prerequisite to this address. I was born and reared in Vermont, and have passed all my days here. The first dollar that I ever earned was as a farm laborer. If I told the whole truth about the matter, it took nearly thirty days to earn ten of them, and there is no record to indicate that I was underpaid. After graduation I practiced medicine for six years in a town of about 1600 population in the northern part of the state. More recently for fifteen years I owned and operated a farm of my own as a sideline. For forty-seven years I have been chiefly engaged in practicing medicine, and for thirty-seven in doing what little I could to teach young men the science and art of medicine in preparation for their life's work.

On account of these various associations, I may fairly claim that I have had and still have a definite interest in the subject under present discussion, as well as a fair outlook for a just appraisement of the elements involved in it. This is not only an occasion of very great honor for me, but a pleasurable one as well, chiefly, because I understand some of the problems of rural communities through a long acquaintance with and an understanding of the people who dwell in our rural towns. Another source of satisfaction is that in the memorial which you have presented to the physicians of our beloved state, I find so many statements that are in harmony with my own views. I am in complete accord with some of the views, which I find therein expressed. Especially that the problem involved in this discussion is largely an economic and social problem, rather than an educational or professional problem. This being true, any suggestion for a remedy to improve the situation respecting the supply of doctors to rural communities must be by or through some sociologic or economic change, not by revolution or laws.

One might discuss this matter from the sociologic, the social or the economic standpoint for a much longer time than I have at my disposal, and still many essential points would be left untouched. In the time allotted me, first, I shall take up for your consideration some of the points, which, to my mind, are of greatest importance, and later shall consider the several suggestions offered in your memorial, but shall reverse the order in which they have been presented.

Going back to about the year 1900 in the history of the movement for better qualified doctors in this country, we find that there were then one hundred sixty Medical Colleges, each absolutely free and uncontrolled; each one determining its own curriculum; the length of its course of study; the number, character, and qualifications of the teachers; the equipment in buildings, laboratories, and necessary apparatus. It is obvious that there would be disclosed a great diversity of purposes and opinions. There were institutions in which heroic, noble-minded men, committed and dedicated to the proposition of service to mankind, struggled honestly with the great problem. There were others conceived in iniquity, born in shame, and lived in dishonor. Between these extremes lay all the Medical Colleges in this country, none of which, however, ranked with corresponding institutions in Europe. In response to the demand for some authoritative regulation of the Colleges of Medicine, the Council of Education of the American Medical Association was born. In 1900 there were in the United States one hundred sixty, so called, Medical Colleges; in 1927, there were eighty such Colleges. In the one hundred sixty institutions, in 1900 there were 25,171 students; in 1910, there were 131 colleges, and 16,502 students; in 1920, 85 colleges, and 13,798 students; in 1927, 80 colleges, and 19,602 students. In 1928, 80 colleges and 20,367 students. In the earlier years of the period from 1900 to 1927, the requirements for a degree in medicine were raised, and they have since been raised from year to year to the present time. Until 1914 it will be observed that there was a steady and rapid decline in the number of young men who elected to study medicine. During the latter half of the period, and following the War, which called many of our young men away, there has been a steady and rapid increase, until the number has nearly reached the highest peak ever attained. I wish to call to your attention, particularly, the fact that the

*Before the Vermont State Grange at Barre, October 16, 1928.

†For record and address of author see "This Week's Issue," page 1115.

young men, graduating in medicine during the past few years, are practically all from first class, or Grade A Medical Colleges, and that in the years when larger classes were being graduated, a very large proportion came from fake, fraudulent or low grade institutions, now suppressed. I venture to assert that in no time in the history of this country were there ever graduated from reputable colleges, as many young men as were graduated in the year 1927.

Your memorial calls attention to these facts: that during recent years, young men have not been inclined to locate in rural communities; that, consequently, the average age of doctors now practicing in such communities is about fifty-six; that in ten years these men will have passed from the stage of active service; and that, their places not having been taken by younger men, the country towns will be left without doctors. Mathematics would seem to give support to this conclusion. However, the laws of economics are inexorable, and I am optimist enough to believe that these same laws will intervene, before such a state of affairs occurs. When the time comes that the ranks of the profession are so decimated in the country, that the country practice will have become the more desirable for a physician, then the recent graduate will locate in the country, not in the city, and the situation will be saved by the law of supply and demand.

I have already intimated the conviction, which I assume to be abundantly sustained by facts, that other forces than educational are concerned, and are material factors that contribute to the state of affairs, respecting doctors in the rural communities. The product of Medical Colleges during the past fifteen years has been absorbed by new demands of the people. Allusion has already been made to the extraordinary number of recent graduates in medicine, who are passing directly from the Medical Colleges to the practice of specialties in medicine. In my own city there are at least eight men engaged at present in the practice of one specialty, whereas a few years ago there was but one. The ranks will be kept filled as long as there is public demand for their work, but not much longer.

The hospitals of the country are absorbing five or six times as many doctors as they formerly did. Moreover there are more hospitals making additional demands. The Sanatoria, the State Boards of Health, the various and sundry Health Agencies have been a very material drain upon the stream of young doctors pouring from our institutions annually. I predict that when these demands are once satisfied, that is, when the saturation point has been reached, these places will have become less desirable. Then the country practice will become relatively, and I trust actually more desirable, and the depleted ranks of the profession in the country will be replenished or filled. It is too much to expect that all the country towns that have hitherto had physicians can attract or hold a physician. Many towns cannot afford a doctor. The income from his practice would not enable him to maintain present-day American standards of living.

From this statement of facts, I think that all will perceive a parallel experience in other lines. What happens to the farmer when there is an excessive acreage and an over-production in potatoes? The answer at once is, "Lower prices for that crop; lessened income; and the next year lessened acreage, smaller crops, and higher prices." Then the cycle is repeated. In the medical profession we had for many years over-production with wide distribution, and a poor quality of physicians. Now we have just finished a period of lowered production, and narrower distribution, with a higher quality of physicians. I expect the awakened interest and agitation of this subject to produce like results. The Medical Colleges are exerting themselves to the utmost to supply the demand for doctors, and to meet it in ample numbers without lowering their quality. I cannot believe that the people of this land of fabulous wealth, accustomed to the best and to the highest standards of living of any country in the world, will ever consent to a Medical College sending out to the rural communities a man who must be labeled as a "Number Two". For it is in the rural communities, of all places in this world of ours, that a big, all-round, skillful physician is most needed.

Turning to the Articles of your memorial, first, let me refer to Article 9, which I quote, as follows:

> "Let the Vermont College of Medicine devote itself to educate for general practice, primarily. A similar purpose might restore the Dartmouth School to full usefulness, and enable the two institutions to supply the needs of the three northern New England States."

The College of Medicine of the University of Vermont does not now, and never has in its history, undertaken to do more than to graduate a general practitioner. It has never undertaken to produce a specialist. If this general practitioner, after he has left college, chooses to practice a specialty, he can do so without let or hindrance, either with or without further study or preparation. The College and the laws of the state have no further control over him in the matter. You should know, however, that the consensus of opinion of the medical profession, the Council of Education of the American Medical Association, and the Association of American Medical Colleges are opposed to that practice. It seems entirely probable that within a very short time steps will be taken to prevent those who have had only a general training in medicine from holding out to the public that they are specialists in any line of professional

work, until subsequent to graduation, they have had additional training in that specialty.

For a number of years it seemed to be the purpose of the Council of Education to standardize all Medical Colleges; to make them all of one type; and to devote themselves to one prescribed course of study. The Council now denies this, and we know that the Medical Colleges are permitted and encouraged to follow more or less diverse plans with a view to fulfilling some definite recognized need, such as the producing of general practitioners, specialists, teachers, health and research workers, etc. The College of Medicine of the University of Vermont has definitely determined upon and announced its purpose to devote its energies and resources to the training of the general practitioner, rather than to that of specialists and research workers.

The suggestion that is made in Article 8 concerning scholarships is in accord with the present law on our statute books, except in respect to the amount of the scholarships. It is to be recalled that the act of the legislature creating these scholarships was passed in 1927. Therefore, none of the beneficiaries under that act have emerged from college. Such scholarships have already been, and are now being awarded under the conditions and to the full extent of the provisions of the act that granted them. For our mutual encouragement I am very happy to be able to announce that fifty-nine students now in college, holding scholarships, have pledged themselves by their signatures to locate in Vermont after graduation.

In Article 7 it is suggested that the district nurse service be expanded. The College of Medicine and the Hospitals with which I have connection have undertaken for several years to render all possible aid to rural communities in this direction, by securing not only district nurses, but also day nurses. Moreover, the College has on many occasions sent our students, and on one or more occasions all its Senior class, together with others, to stricken areas to help in emergencies, such as the "Flu" epidemic, and the more recent flood. There are many practical difficulties in the way of carrying out this suggestion, chief among them being the difficulty in securing an adequate number of nurses. The demand for nurses in late years has largely exceeded the supply, which in turn depends upon the facilities of our hospitals to graduate these nurses.

Article 6 suggests the use of a provision of the law for subsidizing physicians by towns. I see very little in this plan. A subsidy, or bribe, does not appeal to my sense of justice or frankness. I prefer to think of such a grant, if one be made, as a salary given the physician for services rendered the community in the capacity of health officer; for services rendered those who are unable to pay a physician; for school inspections and other public health services, but not as a gratuity. It should be made annually and sufficiently liberal to be a real inducement to a physician so that he will locate and remain in the town. A group of towns favorably situated should find no insuperable obstacle to a co-öperative plan to provide a physician, who would serve their combined needs. This I shall refer to again in the discussion of Article 2.

Article 5 I quote in full, as follows:

> "Systematically bring the opportunities in selected communities to the attention of recent graduates and older men who may be rurally-minded. This might even include advertising such communities, as done in Maine."

I have maintained in my office for several years a Bureau of Information respecting towns without a doctor; doctors looking for a desirable location; bonuses and other inducements offered by towns, etc. This leads me to a question. "Is broadcasting of the fact that a town is without a doctor good advertising for that town?"

Article 4 includes the statement:

> "Create in rural dwellers a better loyalty to the physicians they have, or may obtain ——"

The article frankly states that this task belongs to the Grange and similar organizations.

The rôle of doctor in the rural districts is a difficult one. After five years of practice he can be quite definitely placed in one of two groups. In the first group will be found the man who has lost interest in his professional work except in so far as it affords a means to a livelihood. He ceased to progress because he had lost that inspiriting contact of his brothers, which is afforded in larger communities with two or more physicians.

In the smaller communities often little encouragement is given the doctor in his endeavor to keep abreast of the times. They object to his absenting himself from town to attend meetings. They show a lack of appreciation, when he endeavors to keep step with the progress of his profession, which necessitates such absence. Yet they are quick to discern the consequent lack of interest in his work with the result that his reputation and practice suffer thereby. A little encouragement and a greater loyalty might stimulate him to a greater endeavor in his own interests and indirectly to their interests.

In the second group are those brave souls, who despite the rigorous demands made upon their strength and energies, struggle on for a few years only to give up, finally, from lack of loyalty and appreciation on the part of the community, which they have served.

Article 3, in part, reads as follows:

> "In a carefully organized way create sentiment, restoring the country practitioner to his former relative standing in the profession and community——"

I commend this to your careful consideration. Has the local doctor in the rural town lost his former standing? Has he, because of his nearness, his familiarity and neighborliness, bred a contempt for his skill? If the general practitioner has lost his former standing,—and the country practioner should represent the very best of general practitioners,—let me assure you that it is in the estimation of the community, and not in the estimation of the medical profession. Very recently the Dean of a foremost Medical College, and President of the American Medical Association said, "The general practitioner calls for and, frequently, exemplifies the highest type of physician." The fact that he is practicing general medicine instead of a specialty implies in no way that he represents a lower order of intelligence or skill, but, in his opinion, a higher one. Is it not after all an instance of a familiarity that breeds contempt?

Article 2 of the memorial suggests the establishment of hospitals in the smaller well-located communities, and states:

> "This would not only create laboratory and clinical centers gradually bringing all the state within shorter distances of expert treatment, but will create a colony of trained and ambitious physicians. Such hospitals may be established and maintained by local funds and endowed by public-spirited citizens."

This suggestion has its merits, but its execution would be fraught with serious difficulties. In the first place, the town of sufficient size and so located as to give promise of being developed into a medical center with the facilities mentioned is already supplied with an adequate medical service for its own needs, and would be reluctant, if not unable, to provide such service for the less fortunate and less favorably located smaller neighboring towns. But this is not the disease for which we are seeking a remedy. The immediate need and urgent demand is for a medical service in smaller isolated towns that are without a physician or any service at all; for towns or communities so small that they cannot hope to command the service of a physician in their midst. If this town, co-öperating with similarly situated and adjoining towns, would establish a modest little hospital of four or eight beds, designed to provide only such facilities as are provided by the better homes, it would make it physically possible for one physician to serve a community of sufficient numbers to maintain him in accordance with reasonable standards of living. Two or more nurses should be attached to such an institution, one of whom might well be trained for district nurse service.

Each of the towns united in this manner could well afford granting a subsidy of a sufficient amount, which in the aggregate, would make the undertaking attractive to a well-qualified physician. The cost of medical service to such a community under this plan should not be greater than at present, and the service should be better. The inducement for a doctor to locate in such a place, at the head of such a service would be greater. Many of his patients would be brought to him instead of his going to them: he could give better, therefore more satisfactory service, both to himself and to his patient; he could attend to the wants of a larger even though more scattered clientele. This is, to my mind, the most promising solution to the problem of adequate medical service in the rural communities.

Now coming to the consideration of the suggestion in Article 1 with respect to "a more general training for medical students, as distinguished from a specialized one", a certain basic or fundamental course is given in all Medical Colleges, a successful completion of which entitles the student to the degree of Doctor of Medicine. A license secured from the state in which he proposes to practice entitles him to practice medicine in that state as a whole, or in any of its parts. The matter of determining whether the graduate will practice general medicine or some of its specialties is wholly determined by himself. He may with or without further study elect any of the specialties. Applying this to our situation locally, I repeat that the College of Medicine, during its existence of more than a century, has devoted its resources to training its students as general practitioners. The opening of the present session witnessed the initiation of a program, which, it is hoped, taken in connection with the scholarships already and to be granted, will prove effective in directing its graduates to the rural towns. This innovation provides for an introduction of the student for one month, before graduation, to a country practice under the guidance of a preceptor, a selected, successful general practitioner, located in the country, therefore, under auspices likely to attract him to a rural practice.

With respect to the proposition of shortening the period of study of the student, and thereby the cost of his education in time and money, I would say; that this has been the subject of long and earnest study on the part of the authorities of Medical Colleges for some years; that many plans have been suggested, but none have been acceptable to all. That any plan that contemplates or is likely to result in a lowering of the standard of education for doctors is believed by those most competent to speak, contrary to the spirit and genius of the American people.

I cannot bring myself to believe that the American father and the American mother, however isolated their lives, however remote may be their place of dwelling, when they are called upon to summon a physician to the bedside of their loved ones, will accept other than one in whom they can repose perfect confidence; one

who can be depended upon to recognize in apparently simple beginnings sometimes serious conditions; one who is wise and resourceful, and will act when action means safety, and when delay means danger. Finally, I propose for the rural home and fireside,—a doctor,—none but the best.

MISCELLANY

Dr. W. N. Bryant of Ludlow, Vt., has given up practice and moved to Springfield, Vt.

Dr. E. B. Holmes of Ludlow has bought the residence of Dr. W. N. Bryant.

REPORT OF VERMONT DEPARTMENT OF PUBLIC HEALTH, SEPTEMBER, 1928

This month the Vermont Department of Public Health entertained the New England Health Institute, holding its sixth annual session on September 24, 25 and 26. Burlington's new city hall was used as a meeting place. Three or four classes were in session at the same hour throughout the institute, and speakers were present from various parts of New England, New York and from Washington, D. C.

Attendance according to states was as follows:

Vermont	56
Massachusetts	42
New Hampshire	37
Connecticut	31
Maine	17
Rhode Island	8
New York	7
Washington, D. C.	1
Total	199

Registration fees were received amounting to $171.00 and the total expenses were $171.30.

There was some question as to whether this Institute should be continued, but at a meeting of the State Health Officers of New England it was decided to carry it on for another round, and hold the next session in Hartford, Conn. This Institute is the result of a movement started by the United States Public Health Service, as an attempt to hold sectional Public Health Institutes in eight different localities throughout the country.

Communicable diseases during the month have not shown any decided advance although schools have generally opened throughout the state. There were 101 cases of whooping cough localized for the most part in Franklin, Rutland and Windsor Counties. Twenty-one cases of scarlet fever are scattered throughout the state, and some cases with eruptions have been seen which would have been called scarlet fever but for inspections. Ten cases of poliomyelitis have been reported during the month, bringing the total for the year up to thirty cases. During the early part of the outbreak there were several cases involving the muscles of the throat, but this characteristic has not been observed in the latter cases. Only one case of typhoid fever was reported, that being in the Town of Springfield.

The engineer has inspected public buildings and water supplies this month, including the new Middlebury water supply and the new power project which is being started at East Barnet.

The Laboratory of Hygiene made the following examinations during the month:

For diphtheria bacilli	99
For Widal reaction of typhoid fever	34
For malarial parasites	3
For tubercle bacilli	181
For evidence of syphilis	242
For specific organisms of syphilis	1
For gonococci in pus	127
Of blood for contagious abortion in cattle	51
Of blood for white diarrhea of fowls	802
Of water, chemical and bacteriological	80
Of water, bacteriological	107
Of milk, market	10
Of milk submitted for chemical only	29
Of milk submitted for microscopical only	23
Of foods	16
Of drugs	8
For the Courts, autopsies	3
For the Courts, miscellaneous	24
For autopsies to complete death returns	0
Miscellaneous examinations	59
Total	1899

The Division of Communicable Diseases make the following report:

Cases of gonorrhea reported	50
Cases of syphilis reported	45
Cases of gonorrhea reporting for treament	0
Cases of syphilis reporting for treatment	9
Cases for intravenous treatment	9
Total treatments	36
Gonorrhea outfits distributed	180
Wassermann outfits distributed	290

The Division of Poliomyelitis After-care made 69 home visits during the month of September, 83 patients have been seen, 16 doctors visited, 14 new pieces of apparatus fitted, 10 pieces of apparatus altered and 20 orthopedic corrections were made. Four patients were admitted to hospitals.

In the Maternity and Infancy Division the nurse visited 12 towns holding children health conferences.

OBITUARY ON DR. C. E. ALLEN, SWANTON, VT.

Dr. C. E. Allen died at his home in Swanton, Vt., Oct. 14, 1928, aged 72, after being in failing health for several months.

Dr. Allen was born in East Farnham, Que. Both his father and mother were of Vermont ancestry. He graduated from McGill Medical College in 1883, and soon after began practice in Swanton. Three years later he went to England and took courses in two London hospitals. At intervals in his 40 odd years of practice he studied in hospitals in New York, St. Louis, and Boston. An active practice over a wide territory kept him busy, but he found time to achieve a marked success in business. He participated in the organization of the Swanton Savings

Bank & Trust Co., of which he was president from its organization in 1904 until his death.

Dr. Allen married Minerva S. Drury in 1888. Three children survive him, Horace E. Allen, a lawyer of Springfield, Mass.; C. Keith Allen, a construction superintendent of Brooklyn, N. Y., and Dorcas I. Page, wife of the headmaster of a boys' preparatory school of Indianapolis.

VERMONT MORTALITY STATISTICS: 1927

The Department of Commerce announces that the 1927 death rate for Vermont was 1,385 per 100,000 population in 1927 as compared with 1,480 in 1926. This decrease in 1927 is largely accounted for by decreases in the death rates from pneumonia, all forms (from 123 to 87 per 100,000 population), influenza (from 76 to 38), nephritis (from 120 to 107), tuberculosis, all forms (from 80 to 70), diseases of the heart (from 275 to 266), and scarlet fever (from 5 to 3).

Increases are shown in the death rates from accidental drowning (from 7 in 1926 to 21 per 100,000 population), measles (from 3 to 10), diabetes mellitus (from 22 to 26), and whooping cough (from 9 to 11).

The population of January 1, 1920 is 352,428; no estimates have been made.

Cause of Death	Deaths in Vermont			
	Number		Rate per 100,000 estimated population	
	1927	1926	1927	1926
All causes 1/	4,882	5,215	1,385.2	1,479.7
Typhoid and paratyphoid fever	11	6	3.1	1.7
Malaria	1	1	0.3	0.3
Smallpox	-	-	-	-
Measles	35	11	9.9	3.1
Scarlet fever	11	18	3.1	5.1
Whooping cough	40	32	11.3	9.1
Diptheria	9	14	2.6	4.0
Influenza	134	268	38.0	76.0
Dysentery	2	2	0.6	0.6
Erysipelas	6	10	1.7	2.8
Lethargic encephalitis	3	2	0.9	0.6
Meningococcus meningitis	2	5	0.6	1.4
Tuberculosis (all forms)	247	282	70.1	80.0
Of the respiratory system	205	226	58.2	64.1
Of the meninges, central nervous system	15	29	4.3	8.2
Other forms	27	27	7.7	7.7
Syphilis 2/	34	44	9.6	12.5
Cancer and other malignant tumors	464	471	131.7	133.6
Rheumatism	15	12	4.3	3.4
Pellagra	1	3	0.3	0.9
Diabetes mellitus	92	77	26.1	21.8
Meningitis (nonepidemic)	10	12	2.8	3.4
Cerebral hemorrhage and softening	491	485	139.3	137.6
Paralysis without specified cause	8	5	2.3	1.4
Diseases of the heart	939	969	266.4	274.9
Diseases of the arteries, atheroma, aneursym, etc.	182	182	51.6	51.6
Bronchitis	40	45	11.3	12.8
Pneumonia (all forms)	306	435	86.8	123.4

Cause of death	Deaths in Vermont			
	Number		Rate per 100,000 estimated population	
	1927	1926	1927	1926
Respiratory diseases other than bronchitis and pneumonia (all forms)	35	32	9.9	9.1
Diarrhea and enteritis	59	62	16.7	17.6
Diarrhea and enteritis (under 2 years)	33	44	9.4	12.5
Diarrhea and enteritis (2 years and over)	26	18	7.4	5.1
Appendicitis and typhlitis	60	61	17.0	17.3
Hernia, intestinal obstruction	45	54	12.8	15.3
Cirrhosis of the liver	23	20	6.5	5.7
Nephritis	376	424	106.7	120.3
Puerperal septicemia	15	16	4.3	4.5
Puerperal causes other than puerperal septicemia	36	32	10.2	9.1
Congenital malformations and diseases of early infancy	302	298	85.7	84.6
Suicide	49	48	13.9	13.6
Homicide	3	8	0.9	2.3
Accidental and unspecified external causes	358	272	101.6	77.2
Burns (conflagration excepted)	16	13	4.5	3.7
Accidental drowning	75	24	21.3	6.8
Accidental shooting	6	7	1.7	2.0
Accidental falls	93	85	26.4	24.1
Mine accidents	-	-	-	-
Machinery accidents	8	8	2.3	2.3
Railroad accidents	28	25	7.9	7.1
Collision with automobile	6	4	1.7	1.1
Other railroad accidents	22	21	6.2	6.0
Street-car accidents	1	2	0.3	0.6
Collision with automobile	--	-	-	-
Other street-car accidents	1	2	0.3	0.6
Automobile accidents (excluding collision with railroad trains and street cars)	60	45	17.0	12.8
Injuries by vehicles other than railroad trains, street cars, and automobiles 3/	10	7	2.8	2.0
Excessive heat (burns excepted)	1	1	0.3	0.3
Other external causes	60	55	17.0	15.6
All other defined causes	427	480	121.2	136.2
Unknown or ill-defined causes	11	17	3.1	4.8

1/ Exclusive of stillbirths
2/ Includes tabes dorsalis (locomotor ataxia) and general paralysis of the insane.
3/ Includes airplane, balloon, and motor-cycle accidents.

Case Records
of the
Massachusetts General Hospital

ANTE-MORTEM AND POST-MORTEM RECORDS AS USED IN WEEKLY CLINICO-PATHOLOGICAL EXERCISES

EDITED BY R. C. CABOT, M.D.

F. M. PAINTER, A.B., ASSISTANT EDITOR

CASE 14411

DROWSINESS AND SWELLING OF THE FACE

MEDICAL DEPARTMENT

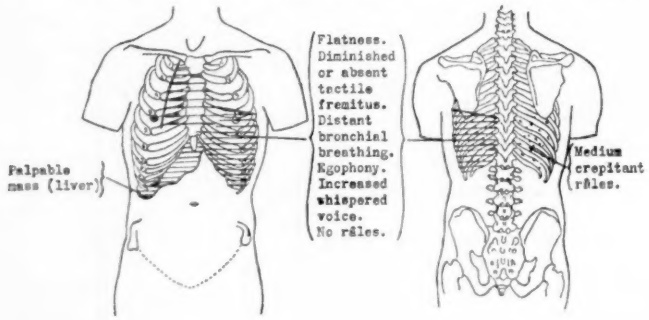
An Irish-American widow sixty-five years old entered the hospital May 13 complaining of dizziness and slowness.

Four years before admission she had an attack of erysipelas of the face and the region of the left ear. Ever since this time her cheeks had lost color and the skin about her eyes had been puffy. She had had three later attacks of erysipelas. For three or four years she had had increasing weakness and slowness in movement. For three years her skin and hair had been growing dry and the circulation in her hands and feet, always poor, had been getting worse. She had been hoarse, although she never had sore throats. In the past two years she had had a slight general loss of hair. For a year she had had a tendency to trip, and had been dizzy after quick motions of the head or when she looked at moving pictures. During the past year her hearing, eyesight and memory had been growing poorer. Recently she had had a tendency to fall asleep, and slept so much during the day that she did not sleep well at night. During the past month her hands had grown very swollen, spade-like and blue. In the past two weeks she had had some dyspnea when she was nervous or hurried. She urinated two or three times at night, and lately had had some urgency. She had lost a few pounds in weight.

Her father died of tuberculosis while she was living with him. One sister had had a nervous breakdown following an unfortunate investment.

The patient had had three or four miscarriages at three months and lost one of her two children the day after birth. She was operated upon for falling of the womb after one delivery. All her teeth had been extracted for pyorrhea. She had some palpitation on exertion or excitement. For years she had had swollen joints in the hands and occasional pains in the hips, due she thought to arthritis. She had gas, relieved by hot drinks. She ate no meat because of high blood pressure. For two years her bowels had required laxatives.

Clinical examination showed an obese woman, asleep and hard to arouse. Voice low, speech slow. Skin cool, subicteric, dry and scaling. Hair coarse and dry. Face rough, cheeks red. Swollen loose skin about eyes, which opened with difficulty. Whitish secretion on lids. A few keratoses over the body. Superabundance of tissue over the clavicles and upper borders of trapezius muscles. Tongue very large and long, somewhat smooth. Thickened tonsillar pillars and uvula. Small firm axillary glands. Breasts atrophic. Apex impulse of the heart not seen or felt. Left border of dullness 5.5+ (?) centimeters, midclavicular line 8.25 centimeters, right border 4.5, supracardiac dullness 6. (Heart displaced to the right?) Rate regular. Sounds distant. A rough systolic murmur, faint in the apical region, becoming loud in the second right interspace. Left pulse greater than right. Artery walls thickened and tortuous. Blood pressure 195/110 to 145/100. Lung signs as shown in the diagram. Abdomen protuberant and tympanitic. Liver edge felt (see diagram). Round-


Palpable mass (liver)
Flatness. Diminished or absent tactile fremitus. Distant bronchial breathing. Egophony. Increased whispered voice. No rales.
Medium crepitant rales.

ed mass in region of gall-bladder. Hypertrophic arthritis of phalangeal joints. Pitting edema of ankles and shins. Dorsalis pedis arteries not pulsating; feet cold. Foul leukorrhea. Vagina presented small irregularities. Small non-bleeding hemorrhoids. Pupils and knee-jerks normal, ankle jerks absent. Fundi: disc outlines indistinct but not choked. Vessels not clearly seen. No obvious sclerosis. No hemorrhages.

Urine: amount 28 to 30 ounces on the two occasions recorded, specific gravity 1.016 to 1.026, no albumin, sediment of a catheter specimen negative. Urine culture: colon bacillus. Blood: 8,000 to 6,500 leukocytes, 66 per cent polymorphonuclears, hemoglobin 65 to 70 per cent, reds 3,400,000 to 3,700,000, no marked achromia, moderate anisocytosis, platelets normal. Hinton

negative. Icteric index 3. Non-protein nitrogen 25. Stools: guaiac strongly positive at one of two examinations. Basal metabolic rate minus 26, pulse 73, weight 62.9 kilos.

Temperature 96° to 98.9°; usually 98° or below. Pulse and respirations normal.

X-ray examination showed arthritis of the terminal phalangeal joints and the spine, also changes suggestive of gout. There were no visible gall-stones. The sella turcica was normal. There was considerable calcification in the region of the pineal gland. The left lung field showed dense dullness except for a small area at the apex. The upper margin of dullness was sharply defined. The outline of the diaphragm and the border of the heart were obliterated. The heart and mediastinal contents were displaced to the right. The right lung field was obscured by the heart shadow, and was less radiant than normal along the borders of the heart and in the region of the base.

The patient was disoriented at night and on the morning of May 18. The edema of the eyelids became marked. The veins of the arms were so engorged that the venous pressure was sufficient to push the piston out when blood was withdrawn. The lips, face, hands and feet were cyanotic. A lumbar puncture was done. The fluid was clear, straw colored, initial pressure 165, jugular compression 610+, release 195, after withdrawal of 5 cubic centimeters 160, after withdrawal of 5 more 140; two red blood cells, one leukocyte; Wassermann and Hinton negative; colloidal gold 0111100000. A chest tap gave 80 cubic centimeters of very slightly opalescent yellowish fluid. On the same day the red blood count was 4,400,000, the blood serum total protein 6.98 grams in 100 cubic centimeters, the hematocrit 38.1 per cent.

That evening the patient seemed brighter and better oriented. The next morning, May 19, she died.

Discussion

BY RICHARD C. CABOT, M.D.

NOTES ON THE HISTORY

1. I do not see why erysipelas should make her eyelids puffy. I think something else besides erysipelas produced that change.

2. Why erysipelas is so much commoner in elderly people than it is in young people is a question of which one often thinks. I suppose the degree of immunity against streptococcus diminishes as we grow older. I remember vividly a man of seventy-three who had a hangnail on his thumb. It got a little red, a little sore. Otherwise he was well. Gradually an inflammation spread up his arm. There was nothing they could operate on. There was no pus. He had very big sore glands in his axilla, with high fever. He died within a week. At necropsy he had pus in every joint. What could you say about that except that the normal immunity against streptococcus which keeps us going in spite of our hangnails fails in old people, so that they are subject to erysipelas and other streptococcus infections?

3. That increasing weakness and slowness in movement is not surprising at her age.

4. What is the history man thinking of when he records dry hair and poor circulation in the hands and feet?

A Student: Myxedema.

Dr. Cabot: That is a rare disease*, so I am skeptical, but still it is possible.

There are other causes than myxedema for loss of hair. At sixty-five it is not surprising.

5. Dizziness after quick motions of the head is very common again after sixty. Generally this is said to be due to arteriosclerosis. We do not know it.

6. Her not sleeping well is not remarkable. All that we might call growing old—that is, it might be nothing but that. I suppose growing old means arteriosclerosis in the great majority of cases.

7. "Spade-like" is one of the medical slang terms, rather melodramatic. I have never seen a hand that looked like a spade. Certainly no patient would say it. It is a term that is often associated with myxedema and other diseases, but I think it is not a good descriptive term.

8. The man taking this history had the intelligence to say that the patient was exposed to tuberculosis; but still at sixty-five it is not very important. It would be very hard luck if she got as far as sixty-five and then caught it.

9. The history of miscarriages makes us think of syphilis. It does not prove it.

10. High blood pressure is the most definite thing in the history. It has been almost colorless up to that point. She was evidently told that she had high blood pressure, and that is significant. Nothing else is helpful for diagnosis. So far as we have got, the lead is hypertension and the heart troubles that go with it.

NOTES ON THE PHYSICAL EXAMINATION

1. The first few statements in the physical examination suggest myxedema, but it is perfectly possible that they are simply old age plus edema.

2. "Superabundance of tissue over the clavicles and upper borders of trapezius muscles." They are thinking of myxedema. But in an obese woman, as she is stated to be, that is very hard to interpret as indicating anything important.

3. In the description of the tongue again they are thinking of myxedema.

4. The percussion measurements are probably not true. They mean from the midsternal line, and of course 5.5 is not nearly enough.

*Dr. James H. Means informs me that in fourteen years and four months we have had 113 cases of myxedema out of 507,176 admissions at the Massachusetts General Hospital.

5. The heart may be displaced, but we should not say so without an X-ray.

6. In the absence of cerebral lesions the blood pressure shows that we certainly have hypertension.

7. These lung signs are equivocal. They do not fit exactly with fluid or solid. We have bronchial breathing, flatness and increased whispered voice, all in favor of solidified lung. We have diminished tactile fremitus, which is in favor of fluid or high diaphragm with the spleen or the liver sucked up into that area. That on the whole seems to me the more likely, that is, the subdiaphragmatic organs pushed up into the chest. But that does not account for the bronchial breathing. I do not account for that. It might be due to this subdiaphragmatic mass.

8. They evidently think the heart is pulled or pushed or drawn over to the right by something, and we need very much to know what that is. So far I have no idea.

9. The absence of pulsation in the dorsalis pedis arteries does not mean that they are obstructed. We often cannot feel them in old people. We do not need to suppose any local disease.

10. The fact that there are hemorrhages in the fundi is of course an important point.

11. Colon bacillus in the urine culture does not mean much in a case like this. We get a good many of those cultures.

12. The blood shows a moderate presumably secondary anemia, though there is no marked achromia.

13. The basal metabolic rate, minus 26, obliges us to consider myxedema seriously, though in a person as near death as this there might be a good many other things that would produce some lowering.

14. We have no good reason to suspect brain tumor. There has not been much to suggest it anywhere.

15. Eighty cubic centimeters is very little pleural fluid if they took all they could get. It is not nearly so much as we should expect.

16. The red count is a million more than last time. It makes us believe that one of the counts is wrong. But the latter might have been due to surface cyanosis and not a typical red count at all.

DIFFERENTIAL DIAGNOSIS

I am much in the dark. The X-ray is our chief evidence. We have a lowered basal metabolism and other points in the history that go perfectly well with myxedema. Could she have died of myxedema? I never knew of anyone's dying of myxedema. Those that have been nearest to death were cases with a very severe secondary anemia. If she had myxedema I do not think it is important in relation to the cause of death. She died I think of something that affected her chest, especially her left chest, and that has to do with her heart's being over on the right. What can that be? Can it be pleurisy? Why not?

STUDENTS: She had no temperature—no pain—no friction rub.

DR. CABOT: The chief point is that nobody ever died of pleurisy. We know she died. Therefore she did not die of pleurisy as anything important in her case. The other points against it are also perfectly good. She had no fever. The fluid would have been larger in amount. There certainly would have been more than eighty cubic centimeters. What else could it be?

A STUDENT: Aneurysm.

DR. CABOT: That I suppose must be thought of. What else?

A STUDENT: Arteriosclerotic heart disease with passive congestion.

DR. CABOT: That would not account for displacement of the heart.

A STUDENT: Lung abscess.

DR. CABOT: That is a possibility. The difficulty is that we have no fever, we have no characteristic sputum, and lung abscess does not displace the heart.

A STUDENT: Tuberculosis.

DR. CABOT: She is obese and sixty-five. Those two points are pretty strong against tuberculosis, but they do not exclude it. She may have had tuberculosis, but I do not see how she could have had it in a form that would displace the heart. When it displaces the heart it is on the side toward which the heart goes, unless the heart is displaced by tuberculous pneumothorax. Then it would go over to the other side. But we have no evidence of pneumothorax so far as I see. That sharp border of the X-ray shadow is not like a fluid level. It is not horizontal. Neither does it slope up to the upper corner. That is not the usual shape for a fluid level. Going back to tuberculosis, if she had tuberculosis on the right side where the heart is pulled over as by adhesions, it ought to show there. If she had it on the left side it would be at the base of the lung, a rare place. She had no fever, no sputum, and she died. I do not believe it is tuberculosis. What else could it be?

A STUDENT: Something in that left upper quadrant in the abdomen pushing her heart over.

DR. CABOT: I thought of that at first. But we have nothing to show where the diaphragm is on the left. It is not a clear outline for a high diaphragm. What could we have in that region which would push the diaphragm up and displace the heart that much? It could be an enormous spleen. But if it were an enlarged spleen it would be down to the umbilicus. Or could it be a kidney? Yes, as far as I know. Then it would have to be malignant disease. If it were malignant disease it might not show in the urine. It certainly does not show. The common tumor of the kidney, hypernephroma, ordinarily has metastases before death. In this case we had an X-ray of the skull as well as the rest and we should expect to find some of those

metastases. Then I have never known death from tumor of the kidney without a great deal more anemia than this. My difficulty therefore in supposing something below the diaphragm is that I cannot see what it could be. I do not see how it could be spleen or kidney or any other organ. Disease in the intestine could not do it without more functional disturbance.

A STUDENT: How about infarct of the lung?

DR. CABOT: Infarction of the lung of course has to have a cause, and we generally have some hint of that cause. It usually comes from heart disease. We have no evidence of that. She has a hypertension, but very little to convince us that she has back pressure and chronic passive congestion such as you get with infarction of the lung.

Could it be a massive collapse of the left lung? No. The heart is going the wrong way.

A STUDENT: Syphilis of the lung?

DR. CABOT: We have never made the diagnosis right in this hospital.

A STUDENT: How about parasitic infection?

DR. CABOT: We do not know where she lived. It might have been that if she lived in South America.

MISS PAINTER: She was born in Massachusetts and had lived here most of the time.

DR. CABOT: That is a good point against parasitic infection. I do not think we need to consider that.

So I come down to malignant disease, epithelioma or endothelioma of the right pleura. I do not know how to exclude that. It is true that that usually gives bloody fluid in the tap, but not always. I remember several cases where I myself tapped and got clear fluid. I cannot rule it out. Other forms of thoracic malignant disease in the lung or elsewhere I cannot rule out. The possibility of something in the glands of the chest must be remembered, as the cyanosis of the upper part of the body certainly suggests pressure on the venous trunks and the cardiac displacement could come from compressed bronchus from metastasis or enlarged glands.

A STUDENT: Could a malignant tumor of the pleura account for all the various symptoms and signs that you referred to a little while ago in connection with myxedema?

DR. CABOT: I do not believe it could. I think we have to make a separate diagnosis.

A STUDENT: What is the frequency of such metastasis? Is it common in the local glands or in the thyroid?

DR. CABOT: I never heard of it in the thyroid. Certainly most of the metastases from the lung or pleura are local, regional.

A STUDENT: What happens to the metabolic rate in malignancy?

DR. CABOT: Except in leukemia it is low ordinarily. But I never knew it to be so low as minus twenty-six.

A STUDENT: Might not the palpable mass in the liver be metastasis?

DR. CABOT: Yes, perfectly well. It is drawn in a suggestive way in the diagram.

A STUDENT: Was there any sediment test on the chest fluid?

DR. CABOT: Have we all the data?

MISS PAINTER: The record breaks off unfinished.

DR. TRACY B. MALLORY: The findings were those of a transudate rather than an exudate.

DR. CABOT: To sum up, I see three factors,—certainly two, and I believe three. (1) I believe she died of malignant disease in the chest starting either in the pleura or in the lung, I do not know which, with metastatic glands accounting for cyanosis in the upper part of the body. (2) Hypertension, which could not be accounted for by this. It might be attributed to weakened heart and this strikingly low metabolic rate, which I do not know how to account for unless by (3) myxedema. I should say we have evidence of three factors, two of which had nothing to do with her death and one of which was the central cause.

A STUDENT: Isn't it possible that the hypertension was a mistake? The second record is 145/100, which is a good deal less than 195.

DR. CABOT: I do not know any special reason to suspect that it is a mistake. You often get as much variation as that near the end of life. The second one was presumably at the end of life. Have we the dates of these blood pressures?

MISS PAINTER: On May 13 it was 195/110. On the next day it was 145/100. On the 16th it was 180/114.

DR. CABOT: I think we have to say it was hypertension.

INTERPRETATION OF X-RAY

Probably fluid in the left lung field. Possibly a mediastinal mass.

CLINICAL DIAGNOSIS (FROM HOSPITAL RECORD)

Myxedema.
Hydrothorax.
Cardiac failure.

DR. RICHARD C. CABOT'S DIAGNOSIS

Malignant disease primary in the lung or pleura, with metastatic glands.
Hypertension.
Myxedema.

ANATOMIC DIAGNOSES

1. *Primary disease.*

Myxedema.
Arteriosclerosis.

2. *Secondary or terminal lesions.*

Arteriosclerotic heart disease.
Hypertrophy and dilatation of the heart.
Hydropericardium.
Hydrothorax (bilateral).
Arteriosclerotic nephritis (benign type).

DR. MALLORY: I can confirm two diagnoses in this case, but not the third. The patient did have myxedema. The total weight of the thyroid gland was six grams, as against a normal of between 25 and 30. It consisted almost purely of scar tissue in which only very rare parenchymal cells could be identified.

She had an extreme degree of arteriosclerosis, and I think the other findings are all secondary to that.

The chest contained over three liters of fluid, approximately 1000 cubic centimeters of fluid in each of the pleural cavities, and a little over 1000 in the pericardium. In view of the X-ray findings much of this must have accumulated very rapidly in the last few hours of life. The lungs were almost completely atelectatic as a result of pressure from the large amount of fluid.

The heart was much enlarged, weighing 550 grams. There was marked sclerosis of the coronary arteries, without however any marked narrowing of their lumen. The splenic artery showed an extreme tortuosity, the type of arteriosclerotic change that is properly described as a cirsoid aneurysm.

The kidneys showed a slight degree of vascular nephritis, which is a common finding in cases with long-standing hypertension.

A STUDENT: How about the liver and gallbladder?

DR. MALLORY: They were quite negative except for slight passive congestion.

DR. CABOT: What clinical diagnosis was made?

DR. MALLORY: Myxedema and cardiac failure. The fluid in the pericardium was never suspected.

A STUDENT: Where did the fluid come from?

DR. CABOT: It was dropsical.

I think they knew in the wards a good many things they did not tell us. There is nothing in the record to suggest cardiac failure. We got no idea of cardiac failure or of dropsy anywhere. I think the heart must have shown evidence of weakness which we did not get in the record.

I was certainly thrown off when they got only 80 cubic centimeters of fluid out of 1000 cubic centimeters actually there. Although we made a clean miss of diagnosis, I do not know how to blame myself or you for the mistake.

Was the heart displaced?

DR. MALLORY: No, I do not think it was. The dullness was due to that big pericardium without much question, and the signs in the lung were due, I suppose, to atelectasis. I think the death was immediately due to asphyxia from insufficiently aerated lung.

DR. CABOT: This is a very rare kind of death. Ordinarily we take suffocating chest fluid out. Why they did not do it here I do not know.

CASE 14412

AN UNUSUAL CASE OF VOMITING

CHILDREN'S MEDICAL DEPARTMENT

An American girl six years old entered June 26. The chief complaint was vomiting.

When she was eight months old she had projectile vomiting about once a day after nursing, coughing just before vomiting. At weaning she refused everything, even cow's milk. Later she lived chiefly on cow's milk. She had never been able to retain solid food. She retained liquids unless solids were attempted; then she retained nothing. Her longest period without vomiting had been four days. If she vomited she never retained food three minutes and it never seemed to reach the stomach. The vomitus was a mixture of the food eaten and mucus. It contained no blood, and was "coffee grounds" only when she was a baby.

She was a premature baby, seven and a half months, and was delivered with high forceps after a three-day labor induced because of the mother's condition. The birth weight was five pounds. She gained well the first year. She was breast fed for a year, then put on cow's milk and water. She was given cod liver oil at eleven months and orange juice irregularly. She had bronchitis at nine months; bronchopneumonia at eleven months, fifteen months and two years. She had rickets at eighteen months, and did not walk until twenty-seven months. At eighteen months she had cervical adenitis with incision and drainage. At a year and eight months she had measles.

Clinical examination showed a fairly well nourished child in no acute distress. The only positive finding was enlarged and slightly red tonsils.

Urine: amount not recorded, specific gravity 1.026 to 1.034, cloudy at both of two examinations, a very slight trace to the slightest possible trace of albumin at both, 2 to 20 leukocytes at both, 5 to 100 clumps at both. Blood normal. Wassermann negative. Tuberculin, human and bovine, both 1/1000, both negative at twenty-four and forty-eight hours.

Temperature 98° to 100.7°, rectal. Pulse 89 to 130. Respirations 20 to 34.

DISCUSSION

BY JOSEPH GARLAND, M.D.

The child apparently did perfectly well, as far as we can tell from the history, until she was eight months of age. Although her vomiting was projectile when she began to vomit, the diagnosis of congenital pyloric stenosis can undoubtedly be eliminated because of her age at onset; also she vomited only about once a day instead of after every feeding, as would be the case in stenosis of the pylorus. Some impor-

tance should be attached to the fact that the vomiting was immediately preceded by coughing. At the time, pertussis might have been considered; the subsequent history rules this out. The statement is made that food was never retained three minutes and never seemed to reach the stomach. This conclusion was probably made because the milk on which she lived chiefly was returned unmixed with gastric secretions; in other words, not soured.

She gained well the first year and was fairly well nourished at the age of six years. Apparently she had assimilated enough food even if solids were not retained.

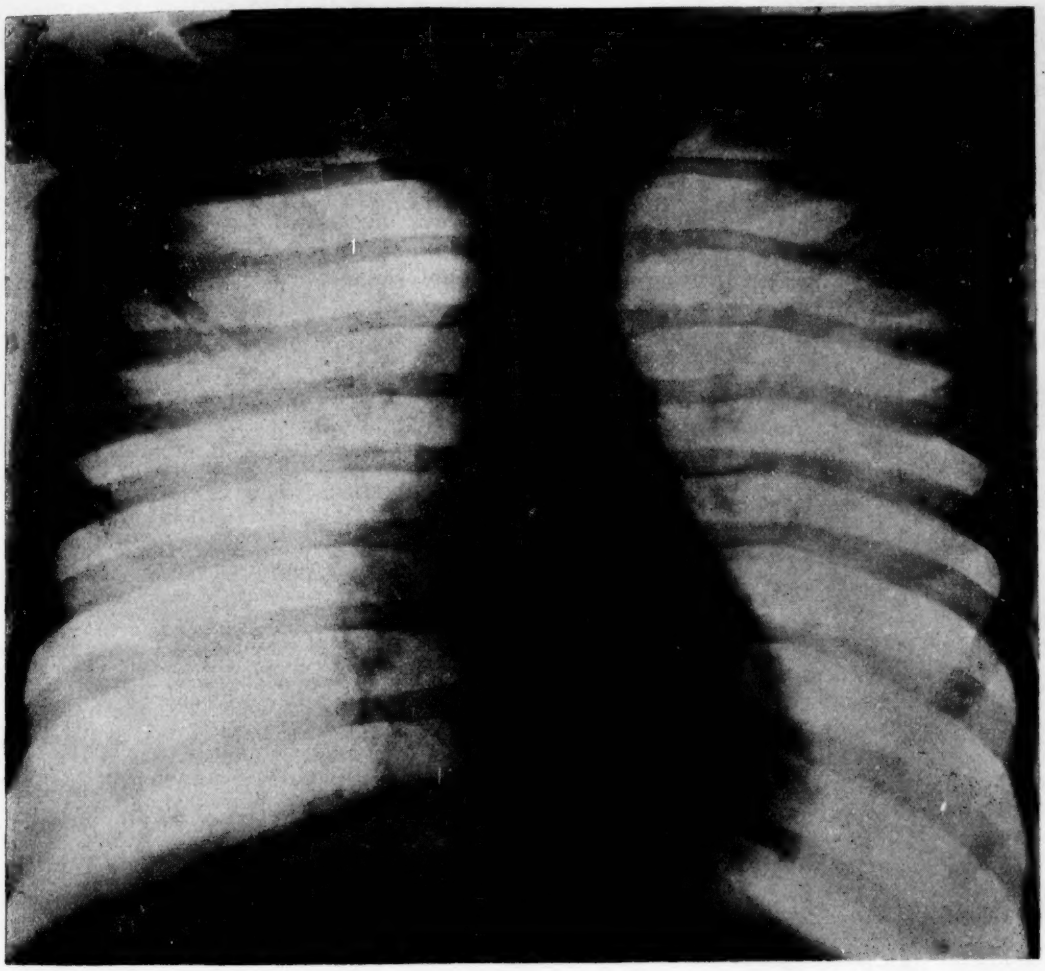
Three probable diagnoses come to mind which might fit the history and the present symptoms. These are cardiospasm, esophageal diverticulum and functional vomiting of possible neurotic nature. The latter was the diagnosis which was favored at the time of her admission. This diagnosis had also previously been made at another hospital.

The rest of her past history and examination are relatively unimportant as regards her chief complaint.

The number of leukocytes with clumping in the urine suggests that she may have had a chronic pyelitis.

A negative Wassermann test helps to exclude syphilitic stricture of the esophagus, although this would be a rare condition, particularly at her age.

Before making a final diagnosis it seemed obvious that a barium study of the upper gastrointestinal tract should be made. This examination was quite sufficient to establish a diagnosis, and scarcely needs further comment.



Foreign body in the esophagus.

ADDITIONAL HISTORY

June 28 fluoroscopic examination showed a foreign body in the esophagus at the level of the aortic arch. The body had the density of metal. It was round, about two centimeters in diameter and had a perforated center. There was constriction of the esophagus just below the foreign body and moderate dilatation above it. There was marked obstruction to the passage of liquids.

July 1 the child was transferred to the Eye and Ear Infirmary. July 2 esophagoscopy was

done under ether. At the level of the aortic arch a metallic flattened ring-like foreign body was found. It was not imbedded. It was removed without difficulty. An inflammatory or possibly congenital stricture was found just below the level where the foreign body had been.

July 5 the child was vomiting everything, even thin soup. She was put upon rectal glucose and rectal tap water.

July 6 an esophagoscope was passed down to the stricture, which was gradually dilated up to bougie Number 25. There was a moderate amount of bleeding after using the Number 23 and Number 25 bougies. The child was in good condition at the end of the operation. July 7 she was started on liquids and soft solids. July 9 she vomited soup, but ate prunes afterwards. July 13 another esophagocopy was done, with dilatation of the stricture up to bougie Number 26. There was slight hemorrhage after passing this bougie. By the 16th her general condition had improved and she was able to take soft solids much better, though she still occasionally vomited. She continued to vomit on certain days, on other days not. She retained liquids at all times. July 25 another esophagoscopy was done, with dilatation of the stricture from Number 18 to Number 26 bougies without bleeding.

She continued to improve, though she still occasionally vomited. July 30 she was discharged relieved.

Records of the Out-Patient Department show a visit August 24. The child had been vomiting since her discharge; could not retain meat or bread crusts. She had a few little spots on her tonsils and a fever of 100°.

August 24 she was readmitted to the Eye and Ear Infirmary. Bougies Number 21, 23 and 26 were passed to the stomach without bleeding. She was discharged August 26.

September 17 she again reported at the Out-Patient Department. She was eating and swallowing well.

DIAGNOSIS

Foreign body in esophagus.

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"NURSES, PATIENTS AND POCKET-BOOKS"

UNDER this caption* the Committee on the Grading of Nursing Schools has issued its report on a Study of the Economics of Nursing. The study has been made and the report has been written by the Director, Mrs. May Ayres Burgess, Ph.D., and is comprised in a volume of over six hundred pages. Other aspects of Nursing will be considered in later reports, for three volumes, of which this is the first, have been planned: 1. The Supply and Demand of Nursing Service; 2. What Nurses need to know and How they may be taught; 3. The Grading of Schools of Nursing.

"The original program adopted by the Committee called for the first grading of schools to precede the publication of the supply and demand monograph. As returns on the economic situation began to come in, however, it was apparent that all possible haste must be made to gather the essential facts and make them public. With serious unemployment reported from all parts of the country, with testimony from physicians and patients that there is no numerical shortage, and with over eighteen thousand new graduates coming into the field this year, it was clear that attention of the seven parent organizations and of others interested in nursing must be focussed upon the question of supply and demand in the immediate future. The publication of this report has therefore been pushed forward, and given precedence over all other activities of the Committee".

The report indicates specifically what for some time has been suspected widely, namely that there is something seriously wrong with the nursing situation. Probably radical action will be necessary and that all those interested may prepare for and ultimately make the needed changes (whatever they prove to be) with as little abruptness and confusion and perhaps dislocation of the machinery as may be, the information acquired has been published promptly.

The Committee goes on to say: "It is difficult for the Director and for the members of the Grading Committee to avoid the temptation of offering tentative answers to the questions raised in this report. At the beginning of its work, however, the Committee agreed that it was not a legislative or administrative body. If it has desires, it has no power to enforce them. Its function is to gather facts, make recommendations, ask questions. The answers to the questions must be found by those who have the power to act. Some recommendations the Committee hopes to make. The problems are so complex and so difficult that it cannot make them at this time. It must take further time to think".

The seven national organizations to whom the Grading Committee makes its report and by whom the published report is officially sponsored are: the National League of Nursing Education, the American Nurses' Association, the National Organization for Public Health Nursing, the American Medical Association, the American College of Surgeons, the American Hospital Association and the American Public Health Association. The Committee includes also seven members-at-large.

The method of collecting information was by the use of questionnaires, nineteen forms being employed, and nearly 350,000 being sent out. At the time tabulations were completed 67,938 had been received.

Some of the important facts which are brought are as follows: Since 1900 there has been a rapid increase in the number of nurses per 100,000 population. At the present time the supply and the demand for nurses are about equal, a slight over-supply being evident. Each year there is added a considerable number by graduation (about 18,000 in 1928) and in 1965 (the year for which the number of physicians has been estimated by the Commission on

*Nurses, Patients and Pocketbooks, by Mary Ayres Burgess. The Committee on Grading Nursing Schools, New York.

Medical Education), if present tendencies continue, the graduating class will be 60,000. There will then be about 717,000 active nurses in the profession and the ratio of nurses to physicians will be about two to nine; at present it is about two to three. There is now, in general, no nursing shortage, quantatively, though in some fields there appears to be a serious qualitative shortage. With no nursing shortage now, the economic situation of nurses in 1965, can be imagined as distressing if there are then three times as many (per physician).

It is a fact that now hospitals are conducting schools (about 2155 in the year 1926) chiefly for the purpose of providing the cheapest nursing care for patients in those hospitals. Little thought is given to the quality of the nursing care, that is, to the question of whether nursing by graduates would be or ought to be better, or to the need of the nurse for education, or to her need when once she has left the training school, or to the need of the community, or to anything except what seems to be the cheapest nursing obtainable. Also it is the larger hospitals that are responsible for sending out the largest proportion of nurses. The qualifications of those who are teaching are woefully inadequate. In fact, the training of the nurse is not now generally regarded as an educational procedure.

It is impossible to give, in a few words, a just idea of the scope and character of this study. There are twenty-eight chapters in the book, and some of the headings read: "Are Physicians Satisfied?", "Are Patients Satisfied?", "What Are Nurses Like?", "How do Nurses Like Their Jobs?", "What Private Duty Nurses Say", "What Nurses Want", and "The Committee Goes On".

This book is to be commended, for thoughtful consideration, to everyone interested in nursing, as a collection of facts of fundamental importance. It does not claim to present all the facts; other facts will appear in later studies, and the reader may draw his own conclusions. The Committee will doubtless present its conclusions later. Much of the information confirms the vague opinion of physicians and nurses. Perhaps hospital trustees are the group in greatest need of the facts presented in this rather remarkable study.

THE NEGLECTED AGE

INFANT mortality in this country is growing steadily lower as the birth-registration area is increasing. In 1912 births were not recorded in most States; in 1928 the birth-registration area includes 43 States and the District of Columbia. In 1912 300,000 babies were estimated to have died during their first year; in 1928 only 182,000 died, and this, of course, out of a larger total number of births. More accurate birth-registration does not imply that this was the cause of our lowered mortality. It does mean that a more general interest in infant welfare has been awakened.

Sharply contrasted with the improved care of infants under two years of age, however, we have a continued neglect of those in the next age group—the pre-school or runabout age. Until infants are two years of age they receive the careful consideration which their infancy seems to warrant; they then apparently pass out of sight, as far as medical supervision is concerned, until they emerge into the school age and are once again taken stock of, too often with the result that many physical defects are found to have been acquired which should have been prevented during their neglected years.

Most of us have had the experience of watching normal children in their development through the months of infancy; we have seen them firm in flesh and normal in weight, with normal feet and chests and straight backs and shoulders up to the age of two years. They have then dropped out of sight for a period of two, three or four years, and when they reappear their shoulders are rounded, their chests are flat, their backs are lordotic, their abdomens prominent and their feet pronated. Nor are these postural changes with their preceding loss of muscular tone the only ones. Too often signs of hypertrophied adenoids have appeared, teeth are malocclued and even carious, and diseased tonsils with their resultant adenopathy have appeared.

The United States Public Health Service has taken cognizance of this relaxation of parental vigilance which comes with the passing of the second birthday, and has sounded a warning regarding the many undesirable physical and mental characteristics which may result from it. Data obtained by the officers of the Service have shown that enlarged tonsils and enlarged cervical glands are most prevalent at six or seven years of age. The incidence of adenoids is high at six, with its peak at eight years. Speech defects are most numerous in the six or seven year old group, and decay of the teeth is widespread at seven. From two to six poor posture is common, and many visual defects are found from four to seven. The evidence all seems to point to the fact that both general physical condition and diet are neglected in the pre-school age.

In this day of health examinations we must not forget that at least as important as the periodic examination of adults in a search for the early signs of disease, is the examination of the more plastic group of our population for evidences of wayward development, and in this age group we can hope for greater accomplishments. The pre-school child deserves an intelligent examination at least every six months, and in the early part of this period he should receive his active immunization to smallpox and diphtheria, rather than delaying this important protection until he finally arrives at school.

A DOCTOR'S PREDICAMENT

A Massachusetts physician recently signed a certificate setting forth that a certain man, who had been cited to appear in court on a serious charge, was on that day sick in bed and unable to appear for trial. The defendant's lawyer was present when the case was called and could not explain the absence of his client. The doctor's certificate of illness had been delivered to the presiding Judge. The Judge felt that the case warranted an investigation and a physician was sent to the defendant's house and was told by the wife that the husband was not at home and was at work. Further investigation proved that the woman's statement was correct.

The physician was requested to appear before the Judge and explain the facts. He reported that the defendant applied to him for a certificate which would be a valid excuse for nonappearance at the trial. He claimed to have felt the man's pulse and that it was faster than normal and told the man to go home and go to bed. He did not report having made any other examination.

The man to whom the certificate was given has since been tried, convicted of a serious offense and fined.

The doctor has been cited to appear before the Judge under the charge of "Contempt of Court".

His trial was set for November 27 inst. At this writing the action of the Court had not been reported and until the final disposition of the case is made public comment is inadvisable.

Reputable physicians are almost invariably treated with courtesy by the courts and their certificates taken without question unless there is valid reason for investigation. Eminent lawyers have raised questions with respect to the association of some doctors with shyster lawyers in claims for damages for alleged accidents. The case cited above may lead to further reference by lawyers to the behavior of physicians.

The Massachusetts Bar Association is trying to correct the abuses which are recognized in certain forms of practice. No less a person than a former Attorney General of this Commonwealth is the object of a complaint by the Bar Association and it is reasonable to expect, if the statements of the ex-President of this body find support, that disciplinary action will be extended down the line.

Is the Bar Association the only professional organization to attempt radical measures to purge itself of unworthy members?

The grosser forms of irregularities of medical practice are taken under advisement by the Board of Registration in Medicine and much good has been accomplished. Medical societies in general are striving to inculcate the highest standards of ethics in the minds of their members without recourse to drastic action if it can reasonably be avoided, but if physicians do not uphold the standards of honorable conduct more definite disciplinary action may be in order.

In this particular case the Board of Registration may relieve the Society, of which this man is a member, of the necessity of initiating a separate investigation.

The decision of the Court may determine how far official action is advisable.

THIS WEEK'S ISSUE

Contains articles by the following named authors:

Feinblatt, Henry M. M.D. Long Island College Hospital, Brooklyn, 1913. Assistant Clinical Professor of Medicine at Long Island College Hospital and Pathologist to St. Peter's Hospital. His subject is: "The Infrequency of Primary Infection in Gallbladder Disease." Page 1073. Address: 616 Carlton Ave., Brooklyn, New York.

Lothrop, Oliver A. A.B., M.D. Harvard 1907. Associate Surgeon, Massachusetts Eye and Ear Infirmary. Surgeon to the Ear, Nose and Throat Department, Newton Hospital. His subject is: "The Management of Frontal Sinus Infection." Page 1078. Address: 101 Beacon St., Boston.

Otis, Edward O. A.B., Sc.D., M.D. Harvard 1877, F.A.C.P. Professor Emeritus of Pulmonary Diseases and Climatology, Tufts College Medical School and Consulting Physician, Boston Dispensary—Department of Lung Diseases. His subject is: "Some Deceptions and Surprises in the Course of Pulmonary Tuberculosis." Page 1081. Address: 475 Commonwealth Ave., Boston.

Aitken, H. F. Formerly, Instructor in drawing in Harvard University. Medical artist since 1899. Now medical artist at Harvard Medical School. His subject is: "Diagram of the Arterial Circulation of Basal Ganglia." Page 1084. Address: Harvard Medical School.

Coriat, Isador H. M.D. Tufts College Medical School, 1900. Formerly, Assistant Physician, Worcester State Hospital, First Assistant Visiting Physician for Diseases of the Nervous System at Boston City Hospital. Ex-President, American Psychoanalytic Association. Member of American Psychiatric Association, New England Society of Psychiatry, Massachusetts Psychiatric Society, International Psychoanalytic Association, Association for Research in Nervous and Mental Diseases, Member Educational Training Committee of the International Psychoanalytic Association. His subject is: "Progress in Psychiatry." Page 1085. Address: 416 Marlborough St., Boston.

HORTON, GUY B. Lecturer, Vermont State Grange. His subject is: "The Situation in Rural Districts as Regards Medical Services." Page 1091. Address: Montpelier, Vermont.

JENNE, J. N. M.S., M.D. University of Vermont College of Medicine, Burlington, 1881. Dean and Professor of Therapeutics and Clinical Medicine, University of Vermont, College of Medicine. His subject is: "Why the Situation in the Rural Districts as Regards Medical Service." Page 1099. Address: 260 Main St., Burlington, Vermont.

THE BOSTON MEDICAL LIBRARY*

A STORY was going the rounds in Berlin in 1909, apropos of Dr. Von Pirquet who had just returned from a visit to Baltimore where he had been called to fill the Chair of Pediatrics at the Johns Hopkins University Medical School. At a dinner tendered him by the Baltimore physicians, Dr. Welch, in introducing him said, that when a foreigner arrived in America, if he landed at New York he was asked how much he was worth; if he came through Philadelphia he was asked who his ancestors were; if he came to Boston he was asked how much he knew and if he came to Baltimore he was asked out to dinner. This characterization of our eastern seaboard may not be strictly true but Boston has always sought to provide a background for the implication in this story by the number of libraries she has established. It would be interesting to scholars to know the histories of all of them. It may be of interest to some to learn the important facts of the story of this one.

Back in the early years of the 19th century, in 1803 to be exact, the first Boston Medical Library was started in a very informal way by the housing of a small collection of medical books at the residence of Dr. John Fleet on Milk Street. He was the first graduate of Harvard University to receive the M.B. degree, in 1788. These books were gathered by members of the Boston Society for Medical Improvement. The assessment for that first year was $10.00, $5.00 less than are the dues of the members one hundred and twenty-five years later. This library, as all libraries of that period, was authorized under the terms of an act passed in 1798. They were known as "Social Libraries", to distinguish them from the circulating libraries. The earliest to organize under this act was the "First Social" or "Social Law Library", as it is called to this day. This was founded in 1804. The Boston Medical Library, or as it was termed by the "Proprietors" when they ceded it, in 1826, to the Boston Athenaeum, was the "Second Social or Medical Library." This Library had been in existence a year as a part of the Boston Society for Medical Improvement before it became established as a "Social Library" in 1805. The next move of the Library was to the office of Dr. John Warren the then Professor of Anatomy at the Harvard Medical School, which was soon to move in town from Cambridge. A grant from the State erected for the School in 1816 a building in which the Massachusetts Medical Society had headquarters. This was on Mason Street where the fire engine house now stands. To the rooms used by the Medical Society the Library made its next move in 1819 and remained there until the "proprietors" ceded the books to the Boston Athenaeum in 1826. The Boston Athenaeum seems to have attempted to do away with the deficiencies of the larger libraries by absorbing all the smaller circulating libraries and the acquisition of the "Second Social" or Medical Library was a part of this movement. At the time of this amalgamation the Medical Library had about 2,000 volumes of well chosen books secured at a cost of approximately $4500 which was the appraisal value placed upon the collection by the authorities of the Athenaeum. At this time the Athenaeum was on Pearl Street but moved from there to its present site in 1849. These books were accumulated by the early Boston Physicians of whom there were seventy-one in 1826. Thirty-one of them being "proprietors" of the "Second Social Library" became also "proprietors" of the Athenaeum, i. e. became what might be termed permanent sustaining members for they each paid $150 for the privilege. These books were held in the Athenaeum until 1896 when the Trustees offered to turn them over to the present Boston Medical Library which had come into existence in 1876. The earliest catalogue of this collection was printed, probably in 1807, and lists 145 titles and 184 volumes. There were other collections of medical books in Boston, notably those belonging to the Massachusetts Medical Society, the Harvard College Library, The Treadwell Library and the Boylston Library. It was not long before the Massachusetts Medical Society's collection was taken over by the Boston Public Library. This was in the spring of 1872. After careful consideration in the Massachusetts Medical Society it was voted to study the Medical Library situation and a Committee was appointed for this purpose and recommended that they sell what they could at twenty cents per volume and any not so disposed of should be turned over to the Public Library. In 1874 the Boston Public Library had 1687 volumes and about 9000 pamphlets. I speak of this to show what became of the books originally the property of the Massachusetts Medical Society when the Second Social Library was housed with this collection in the rooms of the Massachusetts Medical Society, in the building constructed out of funds voted by the State to erect a building for the Harvard Med-

*The facts cited in this article are all from Dr. J. W. Farlow's History of the Boston Medical Library.

ical School. These collections were destined to come together again after a long time when the Public Library and the Athenaeum returned the books, of which they had originally been made the custodians, to the Boston Medical Library. For these reasons there should be a considerable sentimental as well as practical justification for their joining forces again, returning the favor extended by the Society, for now the Library is in a position to be the host. The above was the situation when Dr. James Chadwick appeared upon the scene and was the chief instigator of the movement to found a new Medical Library. After the organization was accomplished two rooms were hired in Hamilton Place and were dedicated in 1873. These rooms had been fitted up for Library purposes in 1875. There were about 5000 books and 4000 pamphlets at that time in the collection. After two years of occupancy of Hamilton Place the collection had grown so that new quarters were necessary and removal to 19 Boylston Place was determined upon. Here it remained until the completion of a new building at 8 The Fenway, in 1901. In 1900 Dr. David W. Cheever, then President of the Library Association, in a letter soliciting subscriptions to the new Library building fund said, "This is to be an Academy of Medicine, a medical club and meeting place and the future home of the Massachusetts Medical Society." In light of what is going on now it seems prophetic and should bring us all together in a united effort to realize the aims and hopes of so many who have in the past worked indefatigably to embody an ideal.

THE BOSTON MEDICAL LIBRARY—A NEW ENGLAND INSTITUTION

How wide an area can be effectively served by a medical library? The answer depends upon the character of the library.

Every professional man must of course have his working collection of books, to which he refers daily if not hourly. Nothing can be a substitute for that.

Not less important, however, is the local library, larger than that of the private office, convenient for frequent visits, but by no means exhaustive. Every hospital has, or should have such a library. In it are books that every doctor needs occasionally, but that need not be duplicated in any one community. Such small community libraries will be much the same from town to town and hospital to hospital.

"The first evidence of solidarity among our fellow-kind, wherever they are found," said Dr. Harvey Cushing, recently, "is the establishment of a library for use in common."

To the librarian of every such library come calls for books which he cannot furnish—books which, vitally important when needed, are too expensive or too rarely used to be bought with the limited funds available. To him also come calls for particular articles, reports, or papers published in some one of the 1800 periodicals devoted to medicine in its many branches. Where shall he find them?

Before every local medical society or club, papers are read. A dozen or a hundred physicians listen to those papers and store up the information given, for use with their patients. Whence comes that information? To quote Doctor Cushing again: "Writing comes after reading."

Back of every practitioner's library, back of every local community library, there must be the great reservoir. Again Doctor Cushing: "Books are the most important tools of our craft when assembled in mass in great medical libraries."

One such library for the whole country is not enough. New York, Philadelphia, Chicago, Cleveland and other cities are proud of their large collections serving large areas. The Boston Medical Library confers distinction upon New England which it serves. Only two in the country, exclusive of the Surgeon General's library, exceed it in completeness.

The books go out from Boston, on inter-library loans to every state in New England. Books are available, and funds are sought, to establish branch libraries in hospitals or local public libraries where desired. Physicians preparing papers are invited to make known their needs in order that books or periodicals may be sent to them. Requests for bibliographical data are promptly met. The supreme ambition of the librarian and the Executive Committee is to increase their usefulness to the maximum.

Doctor Cushing has been freely quoted because his address at the opening of the Allen Memorial Medical Library of Cleveland was particularly concerned with the successful achievement of an undertaking precisely like that in which the Boston Medical Library and Massachusetts Medical Society are now engaged. He made free use of his intimate knowledge of the growth and problems of the Boston Institution. One last significant sentence deserves reflection: "The recent tendency has been to lavish gifts on our laboratories and to neglect our libraries, but Medicine needs both if we are to uphold our vaunted reputation of being a scholarly profession."

MISCELLANY

APPOINTMENT OF MICHAEL M. DAVIS AND OTHERS

Edwin R. Embree, President of the Julius Rosenwald Fund of Chicago, recently announced that Michael M. Davis, of New York City, has been appointed to the executive staff of the Julius Rosenwald Fund as Director for Medical Services.

Dr. Davis is known throughout the country as an

authority on hospitals and clinics and a writer on public health subjects. His recent book, "Clinics, Hospitals and Health Centers", is the standard work in that field. As executive officer of the Committee on Dispensary Development of the United Hospital Fund of New York he was responsible for the organization of the Pay Clinic of the Cornell University Medical College. During the past few years he has been engaged in studies of hospital problems for the Rockefeller Foundation and in private work as consultant to various organizations.

Dr. Davis will direct the program which the Julius Rosenwald Fund is planning to undertake in improving the organized facilities for medical service to the average man of moderate means. In these activities every effort will be made to co-öperate with the medical profession. Special attention will be given to pay clinics.

William B. Harrell, now Assistant Auditor of the University of Chicago, has been appointed Secretary and Comptroller of the Julius Rosenwald Fund. Born and educated in the south, Mr. Harrell has the degrees of B.A. and M.A. from the University of North Carolina. He has been an instructor in economics and a member of the business offices of the Universities of North Carolina and Chicago.

Franklin C. McLean, Chief of the Medical Clinics of the University of Chicago, has been elected a trustee of the Julius Rosenwald Fund.

Commenting upon the new work which Dr. Davis is to direct, Mr. Embree, President of the Fund, said:

"Great loss in human welfare and happiness and in economic efficiency is caused by sickness, much of which can be cured or prevented by modern medicine. While the brilliant achievements of medical science are among the triumphs of the century, the full benefits of recent discoveries and present knowledge do not yet reach the average man. As Dr. William H. Welch, dean of American medicine, puts it: 'The health field has a woefully ineffective distribution service as compared with its enormously effective production service.' It is common knowledge that people of moderate means find it harder to get good modern facilities for diagnosis and treatment of illness than do the poor and indigent through charity services and free hospitals.

"The Julius Rosenwald Fund is planning to study and from time to time give practical aid to clinics and other organized medical services, including pay clinics."

A MOVEMENT TO HAVE A PHYSICIAN IN THE CABINET OF THE PRESIDENT OF THE UNITED STATES

One of the important subjects discussed at the recent meeting of the Executive Council of the American Medical Editors' Association is the desirability of having a physician in the President's Cabinet.

Dr. Anthony Bassler presented the following resolution:

"Be it resolved, it is the sentiment of the American Medical Editors' Association that there should be a medical officer in the President's Cabinet at Washington."

This was unanimously adopted.

It has been said that there are two classes of persons; doctors and patients. While this is a dramatic figure of speech it contains the evident fact that practically all persons are dependent on the services of physicians. Even though not afflicted by disease everybody is enjoying the protection of medicine in one way or another. The well-being of individuals is the foundation of national prosperity. The quality of public service depends upon the efficiency of those engaged in it. The average mental and physical health of its people determines the standing of a nation. The sound mind in a sound body should be the great aim of government. There is every reason for and none against the creation of a cabinet post for a representative physician. Medical Societies should endorse the resolution of the American Medical Editors' Association.

CONNECTICUT MORTALITY STATISTICS: 1927

The Department of Commerce announces that the 1927 death rate for Connecticut was 1,024 per 100,000 population as compared with 1,141 in 1926. This decrease in 1927 is largely accounted for by decreases in the death rates from pneumonia, all forms (from 101 to 76 per 100,000 population), influenza (from 30 to 14), measles (from 13 to 2), nephritis (from 94 to 83), tuberculosis, all forms (from 76 to 66), diarrhea and enteritis, under 2 years (from 17 to 12), and whooping cough (from 5 to 2).

Slight increases in 1927 were in death rates from cancer (from 104 in 1926 to 105 per 100,000 population) and automobile accidents (from 19 to 20).

The estimated population, July 1, 1927, was 1,636,000 and in 1926 was 1, 606,000.

WEEKLY MORTALITY FROM RESPIRATORY ILLNESS SHOWS GAIN

Deaths from influenza and pneumonia increased for the week ended October 6 as compared with the corresponding week of last year, according to the weekly review on the prevalence of communicable diseases, made public October 26 by the United States Public Health Service.

For the 1928 week 94 cities having a population of more than 30,000,000 reported 540 deaths from these respiratory diseases. The same cities reported 407 deaths for the week of 1927.

With the exception of typhoid fever all other communicable diseases showed decreases in incidence for the week of 1928 as compared with the week of the previous year.—*U. S. Daily.*

EXCERPTS FROM THE STATEMENT BY THE FEDERAL TRADE COMMISSION AT A TRADE PRACTICE CONFERENCE

A trade practice conference for publishers of periodicals was held at the Waldorf-Astoria Hotel, New York City, on October 9th, 1928, at which Honorable Wm. E. Humphrey, Chairman of the Federal Trade Commission, presided, assisted by Attorney Martin A. Morrison and by M. Markham Flannery, Director of Trade Practice Conferences.

From the appearances entered, it is estimated that practically the entire periodical publishing field was represented, in person or through associations.

Chairman Humphrey outlined the scope of the conference, explained the powers of the Commission, called attention to the extent of fraudulent advertising and requested the co-öperation of the publishers, indicating their responsibility in this matter and outlining the specific action desired.

He said: "As in all other industries, you have within your ranks those who violate the law. And an invitation to this conference means that we ex-

pect the help of the honest majority to clean the industry and to use their influence to assist us in controlling and suppressing the dishonest, not only in the public interest but in the interest of the industry that they shame and discredit."

EXTENT OF FRAUDULENT ADVERTISING

"The people are annually robbed of millions of dollars by false and misleading advertisements that appear in the periodicals of the country. Some are patently false, some are near the border line and in the twilight zone. Of these I do not now especially speak, but of those that are openly and shamelessly false on their face, those about which no reasonably intelligent man could be mistaken. This class of advertisements takes its toll of millions annually from the sick, the unfortunate and the ignorant; those that are ready to try anything as a forlorn hope.

How can this gigantic evil of false advertising be suppressed? The Department of Justice, the Post Office Department, and the Federal Trade Commission, have waged war unceasingly against it. But the result has been most unsatisfactory and discouraging. What of the responsibility of the publisher? He becomes part of the plan. Without his assistance the consummation of the scheme would be impossible. Knowingly or unknowingly the publisher helps rob the unfortunate victim. He brings the victim and the crook together. He shares in the ill-gotten gains. In publishing such advertisement the publisher is violating the law. He is guilty of an unfair practice. In a suit by the Federal Trade Commission to suppress such advertising, the publisher is not only a proper party but under recent decisions, he is a necessary party. The Commission, as a public duty that it is under every obligation to perform, should make the publisher a party to all suits against fraudulent advertising by publication. These facts in regard to their responsibility seem not to be generally understood by the publishers. This is the outstanding reason why the Commission has called this conference."

CO-OPERATION OF PUBLISHERS DESIRED

"We come, asking the publisher to take up this question and do what he can voluntarily to eliminate this great evil. And certainly it would be of tremendous advantage to the publishing industry to voluntarily abandon any unlawful practice rather than to be forced to do so through the courts. More protection can be given to the public by your co-öperation than by years of litigation. Without your assistance, it an endless and almost hopeless task.

There is another appealing reason for the publisher to do what he can to protect his readers, that should arouse his sense of justice and his duty to the public. When an unfair practice appears in most any other business, it hurts some competitor. That competitor is usually quick to complain and bring the fact to the attention of the Commission; and thereby he protects the public while protecting himself. But in the case of many of these false and misleading advertisements there is no competitor—The victim is in reality helpless. He is either too ignorant or too ashamed of the publicity it will bring to make any complaint. Usually the amount is too small to justify the trouble and expense of securing redress. These are the main reasons why the faker and the crook of this class are able to successfully carry on their work. So the publisher in eliminating fraudulent advertising is protecting those who are unable to protect themselves; giving protection to those who most need it—the weak and the helpless."

Editorial Note: We regret to observe that in a list of those present at the Conference we failed to see the name of a representative of any of the newspapers published in Boston. Judging by an examination of the columns of the Boston newspapers the subject has little of interest to the managers. Our most influential daily (as we estimate) professes to have ethical standards but its columns show that its professions are only empty words as far as advertisements of proprietary medicines are concerned.

THE NATIONAL RESEARCH COUNCIL COMMITTEE

Dr. Max Mason, former president of the University of Chicago, Dr. William Allen Pusey, of Chicago, former president of the AMERICAN MEDICAL ASSOCIATION, and five other men who rank among the world's scientists, have just been appointed as the National Research Council's committee to co-öperate with the officials of the Chicago World's Fair in developing the scientific theme of the city's centennial celebration.

"In the world of science the names of these men are something to conjure with," said Rufus C. Dawes, president of the World's Fair in announcing the personnel of the committee which includes Frank Baldwin Jewett, vice-president of the American Telephone and Telegraph company, in charge of development and research, chairman; Gano Dunn, Dr. Simon Flexner, Dr. Vernon L. Kellogg, and Dr. Michael I. Pupin.

The National Research Council was set up at Washington during the World War for the purpose of mobilizing the scientific intelligence of the nation. It is an agency by which the government brought about co-öperation between men of industry and men of science to increase national production to meet the emergency of war. "It seems therefore the appropriate agency to help us present to the industries of the nation the advantages of continuing such co-öperation in times of peace," said Mr. Dawes.

Mr. Jewett, chairman of the committee, has been president of the Bell Telephone Laboratories since 1925. He was vice-chairman of the Engineering Foundation from 1919 to 1925 and was in charge of the division of Engineering and Industrial Research of the National Research Council from 1923 to 1927.

He is a former president of the American Institute of Electrical Engineers and was awarded the Distinguished Service Medal of the United States for service in the special Submarine Board of the United States Navy. He was research assistant to Professor A. A. Michelson of Chicago during 1901-'02.

Dr. Simon Flexner, who is a physician and pathologist, has been medical head of the Rockefeller Institute for Medical Research since 1903. He is the author of many papers relating to bacterial and pathological subjects and is chairman of the Public Health Council of New York. He is a Fellow of the American Academy of Arts and Sciences and a Foreign Member of the Royal Society of London.

Dr. Vernon L. Kellogg has been permanent secre-

tary and chairman of the Division of Educational Relations of the National Research Council since 1919. He is the author of many works on biology and zoölogy and was the intimate friend and associate of President-elect Herbert Hoover during the latter's European relief work. He is an officer of the Legion of Honor and a Commander of the Order of Crown of Belgium and has received many other distinctions from other countries. He is a former member of the faculty of the University of Kansas and of Stanford University.

Gano Dunn, who is an electrical engineer, was chairman of the National Research Council in 1927. He is vice-president in charge of engineering and construction for J. G. White and Company of New York City. Recently he was chairman of the State Department's special commission on submarine cables. He is president of the American Institute of Electrical Engineers and honorary secretary for the United States of the British Institution of Electrical Engineers.

Dr. Michael I. Pupin has been professor of Electrical Mechanics at Columbia University, New York City since 1901. He is a member of the electrical committee of the National Research Council and of many scientific bodies. He is widely known as an author, among his best known works being "From Immigrant to Inventor"; "Thermodynamics of Reversible Cycles in Gases and Saturated Vapors"; "Jugoslavia"; and "New Reformation from Physical to Spiritual Realities."

Dr. Max Mason is director of the division of natural science of the Rockefeller Foundation. He is a member of the German Association of Mathematics and many other scientific bodies. He was a member of the submarine committee of the National Research Council from 1913 to 1915 and is the inventor of submarine detection devices. In addition to his fame as former president of the University of Chicago he is widely known as the author of many papers on mathematical research.

Dr. William Allen Pusey is widely known as a dermatologist. He has been professor emeritus of the College of Physicians and Surgeons of the University of Illinois since 1915. He was president of the American Medical Association in 1924-'25. He is the author of many medical and other works.

"We have asked the council to help us, not only to make an adequate statement of what might be called the philosophy of our exposition, but, in addition, to have that statement endorsed by competent authorities."

CANCER CONTROL AND THE AMERICAN PUBLIC HEALTH ASSOCIATION

Events of much importance to cancer control in the United States took place at Chicago in the week beginning October 15, when the American Public Health Association, with an attendance of 2,400 members, mostly professional health workers, held its fifty-seventh annual meeting.

The principal feature of the convention was a cancer symposium under the chairmanship of Dr. Charles H. Mayo, with addresses on early diagnosis, the epidemiological approach to cancer, heredity, a cancer clinic and what it is necessary to do about cancer. Dr. Mayo himself expressed a belief in the inheritability of a susceptibility to cancer and made a plea for a central organization which should serve as a clearing house for information on cancer.

At that time also the following events occurred:

1. The Association adopted the report of its Cancer Committee recommending that responsibility for leading and otherwise promoting cancer control activities in a state or community be definitely placed in the hands of a committee composed of (a) the head of the public health department (b) a r presentative elected by the organized medical profession and (c) a representative of the American Society for the Control of Cancer.

2. The Committee on Administrative Practice of the American Public Health Association presented a revision of the Appraisal Form for city health work in which cancer is named as an activity to be taken fully into account in rating the value of public health work, listing it with sanitation, the control of communicable disease, etc.

3. Announcement was made of the appointment of a National Cancer Committee with members in all parts of the United States and a local cancer committee in Chicago to investigate new methods in treating cancer and to serve as a center of information on all phases of the cancer question.

4. A new committee on cancer statistics was appointed by the Section on Vital Statistics to draw up standard methods of collecting and expressing statistics of cancer in which the errors which have so often invalidated such records shall be as far as possible eliminated. It is possible that the work of this committee will entirely change existing statistical methods in relation to this disease.

5. Decision was made to devote an entire session of the section on statistics to cancer at the annual meeting.—*Bulletin of American Society for the Control of Cancer.*

CORRESPONDENCE

HENRY M. STANLEY A PRISONER OF WAR AT CAMP DOUGLAS

Mr. Editor:

Perhaps no more graphic description of the horrors of the prison camps during the Civil War has ever been written than that of Stanley, the great explorer and finder of Livingston in "Darkest Africa."

Stanley had enlisted in the Dixie Greys, the 6th Arkansas regiment, and was taken prisoner at the battle of Shiloh, April 6th, 1862.

The account is taken from his Autobiography, edited by his wife, Dorothy Stanley, and published in 1909.

In connection with his account of the battle the following letter, published in the autobiography, is of interest.

"Blue Ridge Ga.
March 28th 1891.

"Dear Sir—I am anxious to know if you enlisted in Company E, Dixie Greys, 6th Arkansas Regiment, Col. Lyon commanding, Lieut.-Col. Hawthorn, Capt. Smith commanding Dixie Greys Co. E. Col. Lyons was accidentally killed on the Tennessee River, by riding off Bluff and horse falling on him."

"On the 6th April, 1862 the Confederates attacked the Yankees at Shiloh. Early in the morning I was wounded, and I never saw our boyish looking Stanley no more, but understood he was captured and sent North. I have read everything in newspapers and your Histories, believing you are the same Great Boy.

We all loved you and regretted the results of that eventful day."

"This is enough for you to say, in reply, that you are the identical Boyish Soldier. You have wrote many letters for me, please answer by return mail.

Very truly yours,
JAMES M. SLATE."

On the sad trip to St. Louis and Chicago Stanley says.

"We made no advances to acquaintanceship, for what was the value of any beggarly individual amongst us?"

"All we possessed in the world was a thin, dingy suit of grey, and every man's thoughts were of his own misfortune."

Stanley was elected captain of his platform and berths below it, on arrival at Douglas, and had about one hundred men to ration and look out for as best he could.

"As time passed," he says, "we found it to be a dreary task to endure the unchanging variety of misery surrounding us."

"I was often tempted with an impulse to challenge a malignant sentry's bullet, by crossing that ghastly 'deal line' which I saw every day I came out." . . .

"In our treatment I think there was a purpose. If so, it may have been from a belief that we should the sooner recover our senses by experiencing as much misery, pain, privation and sorrow as could be contained within a prison, and therefore the authorities rigidly excluded every medical, pious, musical, or literary charity that might have alleviated our sufferings."

"It was a barbarous age, it is true, but there were sufficient Christian families in Chicago, who, I am convinced, only needed a suggestion to have formed societies for the relief of the prisoners. And what an opportunity there was for such, to strengthen piety, to promote cheerfulness, soothe political ferocity, and subdue the brutal and vicious passions which possessed those thousands of unhappy youths immured within the horrible pen."

"Left to ourselves—"we were soon in a fair state of rotting while yet alive."

"Within a week our new draft commenced to succumb under the maleficent influences of our surroundings. Our buildings swarmed with vermin, the dust sweepings were alive with them. The men began to suffer with bilious disorders, dysentery and typhus began to rage. Day after day my company steadily diminished and I had to see them carried in blankets to the hospital, whence none ever returned. The dysentery,—however they contracted it—was of a peculiar epidemical character, and its victims were perpetually passing us, trembling with weakness, or writhing with pain, exasperating our senses to such a degree that only the strong minded could forego some expression of their disgust."

"The latrines were all at the rear of our blank barracks, and each time imperious nature compelled us to resort to them, we lost a little of that respect and consideration we owed our fellow creatures."

"For on the way hither, we saw crowds of sick men who had fallen, prostrate from weakness, and given themselves wholly to despair, and while they crawled or wallowed in their filth they cursed and blasphemed as often as they groaned. In the edge of the gaping ditches, which provoked the gorge to look at, there were many of the sick people, who, unable to leave, rested there for hours and made their condition hopeless by breathing the stenchful atmosphere. Exhumed corpses could not have presented anything more hideous than dozens of these dead-and-alive men, who, oblivious to the weather, hung over the latrines or lay extended along the open sewer, with only a few gasps intervening between them and death. Such as were not too far gone prayed for death, saying, 'Good God, let me die! . . . and one insanely damned his vitals and his constitution, because his agonies were so protracted. No self-respecting being could return from their vicinity without feeling bewildered by the infinite suffering, his existence degraded and religion and sentiment blasted."

"None of us were conspicuously wise out of our own sphere, and of sanitary laws we were all probably as ignorant as of the etiology of sclerosis of the nerve centres. In our colossal ignorance, we were perhaps doing something half-a-dozen times a day, as dangerous as eating poison, and constantly swallowing a few of the bacilli of typhus. . . . When the authorities were as ignorant as ourselves—I cannot believe their neglect of us was intentional—we were simply doomed."

"It was the age that was brutally senseless and heedlessly cruel. It was lavish and wasteful of life, and had not the least idea of what civilized warfare ought to be except in strategy. It was at the end of the flint-lock age, a stupid and heartless age, which believed that the application of every variety of torture was better for discipline than kindness, and was guilty during the war of enormities, that would tax the most saintly to forgive." . . . "Still the civilized world is densely ignorant. It has improved immensely in thirty years, but from what I have seen in my travels in many lands, it is less disposed to be kind to man than to any other creatures, and yet none of all God's creatures is more sadly in need of protection than he!"

Very truly yours,
WM. PEARCE COUES, M.D.

November 6th, 1928.

REFERENCE

The Autobiography of Sir Henry Morton Stanley, G.C.B. Edited by His Wife, Dorothy Stanley. Houghton Mifflin Company, Cambridge, 1909

RECENT DEATHS

SEYMOUR—DR. MALCOLM SEYMOUR of Boston died at the Phillips House, Massachusetts General Hospital, November 17, 1928, at the age of 50. He was born in Lyons Farms, N. J., February 19, 1878, the son of the late Robert Hoe Seymour and Mrs. Helen Haylett Seymour Whiting of New York.

Dr. Seymour was a graduate of Harvard Medical School in the class of 1904 and was an interne at Boston City Hospital. He practiced internal medicine and was a Fellow of the Massachusetts Medical Society and of the American Medical Association.

During the World War he served overseas as commanding officer of the American Hospital at Winchester, England. Dr. Seymour is survived by his wife, who was Miss Ethel Shrigley of Valparaiso, Chili; and two children, Miss Helen Seymour and Malcolm Seymour.

JELLY—Dr. Arthur Carlton Jelly, neurologist and psychiatrist, died following a long illness at the Palmer Memorial Hospital, Roxbury, November 19, 1928, at the age of 72. The son of the late Samuel and Mary Jane Carlton Jelly, he was born at Sacramento, California. He was a graduate of Harvard College in the class of 1881 and of Harvard Medical School ten years later. After serving as house officer at the Massachusetts General Hospital and at the McLean Hospital, he was assistant physician at the Boston Insane Hospital, now the Boston State Hospital, for three years. He settled in Boston and became a member of the American Medico Psychological Association, the Boston Society of Psychology and Neurology, a Fellow of the Massachusetts Medical Society and of the American Medical Association. For many years he was inspector of special classes in the Boston schools. Dr. Jelly was a nephew of the prominent alienist the late George F. Jelly. He was unmarried.

MacMILLAN—Dr. Andrew Louis MacMillan, a retired Fellow of the Massachusetts Medical Society, died at the home of his son, also a Fellow of the Society, in Concord, N. H., November 17, 1928, aged 79 years.

He was born at Dansville, Vt., October 28, 1849, and was graduated from Dartmouth College in the class of 1872 and from Albany Medical College in 1879. He settled in Hanover, Mass., in 1890, and practiced there until his retirement in 1915. He held fellowship in the American Medical Association. He was also affiliated with the White River Masonic Lodge, Pilgrim Royal Arch Chapter and Old Colony Lodge, Knights Templar. For 25 years he served as chairman of the Hanover Board of Health.

He is survived by his widow and by his son, Dr. Andrew Louis MacMillan of Concord, N. H.

GREEN—Dr. Charles Montraville Green, formerly Professor of Obstetrics and Gynecology and Secretary of the Faculty, Harvard Medical School, died at the home of his son, Dr. Robert M. Green, in Brookline, November 20, 1928, aged 77.

Dr. Green was a member of the Massachusetts Medical Society, for many years a councillor, and chairman of the Committee on Membership and Finance.

SAWYER—Dr. Elihu Le Roy Sawyer of Roslindale, a retired Fellow of the Massachusetts Medical Society, died at Orlando, Fla., November 17, 1928, at the age of 72.

He was a graduate of the University of Vermont College of Medicine in 1883 and settled in Barre, Mass. the next year. He moved to Exeter, N. H. in 1896 and to Roslindale three years later. His name was placed on the retired list in 1920.

NEWS ITEMS

THE AMESBURY HOSPITAL SUSPENDS—On account of lack of funds, according to reports in the daily papers, the Amesbury Hospital will close the institution until sufficient funds can be raised to meet the operating expenses.

This hospital is a well constructed plant with 30 beds which cost $150,000 and has been in operation since December 1927.

If voluntary contributions are not forthcoming the suggestion has been made that perhaps the town might take over and operate the hospital.

ANTI-VIVISECTIONISTS WILL PRESENT BILL TO CONGRESS—At a recent meeting of the Anti-Vivisectionists in New York it was planned to present a bill at the next session of Congress prohibiting vivisection in the District of Columbia. It was brought out that if public hearings can be secured startling revelations will be presented.

The American Medical Association and the medical profession in general were denounced.

A resolution was adopted denouncing as a "disgrace and blot on the name of California" the acquittal of an instructor in a State Normal School at Santa Barbara who was accused of performing experiments on a dog.

HOSPITAL DRIVES

THE NEW ENGLAND HOSPITAL—It is reported that $134,092.26 has been secured in the drive for support of the New England Hospital for Women and Children. The required balance of $150,000 is expected to materialize before the campaign closes.

THE MASSACHUSETTS GENERAL HOSPITAL has received $424,330 and needs over $175,000 more to reach the objective of $600,000 which is to provide a building for the care of persons of moderate means.

THE CHILDREN'S HOSPITAL campaign for $1,250,000 is getting under way. Every Monday afternoon the committee of ladies under Mrs. H. Parker Whittington will serve tea in the Memorial laboratory at the hospital from 3 to 5:30 and guides will be provided to show visitors over the hospital.

NOTICES

AN ALLEGED SWINDLER

A report sent in by a member of the Massachusetts Medical Society alleges that E. J. Williams (Alias D. Kloman) claims to represent the Kloman Surgical Supply Co. of New York City and the Process Engraving Co. Manufacturers of Christmas cards and is soliciting orders and deposits.

These companies have no such salesman. It is reported that he has passed worthless checks. A warrant has been issued. If his appearance is noted by physicians, the police should be informed at once.

UNITED STATES CIVIL SERVICE EXAMINATIONS

The United States Civil Service Commission announces the following open competitive examinations:

Medical Adviser.
Assistant Medical Adviser.

Applications for medical adviser and assistant medical adviser must be on file with the Civil Service Commission at Washington, D. C., not later than December 29.

The examinations are to fill vacancies in the Food, Drug, and Insecticide Administration, Department of Agriculture, for duty in Washington, D. C., or in the field.

The entrance salaries range from $3,800 to $4,400 a year for medical adviser, and from $2,600 to $3,100 a year for assistant medical adviser. Higher-salaried positions are filled through promotion.

The duties are to examine and study the quality and character of foods, drugs, and other commodities (including medical devices) in connection with the

effect that they have upon the living human body, in order to determine the truth or falsity of claims and representations made therefor; to prepare reports thereon for various Government departments or offices; to take part in hearings or conferences, and testify in court and otherwise as the work may require; to co-öperate with inspectors, chemists, physicians, attorneys, and other officers connected with the enforcement of various laws dealing with adulterated and misbranded commodities, untruthful advertising, and unfair trade practices.

Full information may be obtained from the United States Civil Service Commission, Washington, D. C., or from the secretary of the United States Civil Service Board of Examiners at the post office or customhouse in any city.

REPORTS AND NOTICES OF MEETINGS

THE RADIOLOGICAL SOCIETY CONVENTION

The Radiological Society of North America will hold its Annual Convention in Chicago, December 3, to 7 inclusive, 1928, at the Drake Hotel, Lake Shore Drive and North Michigan Avenue.

Much attention is being given to arranging for Scientific and Commercial Exhibits. These exhibits will afford a Post Graduate course of instruction in nearly every branch of Medical Science. Clinics covering radiological problems as well as other branches of medicine will be given every day during the session.

THE HARVARD MEDICAL SOCIETY

On Tuesday evening, November 13, at 8:15 o'clock in the Amphitheatre of the Peter Bent Brigham Hospital the Harvard Medical Society held its regular meeting. After the presentation of cases Dr. Warren Sisson introduced Mr. Philip Drinker who spoke on and demonstrated "A New Apparatus for Applying Artificial Respiration." He was followed by Dr. Stewart H. Clifford of the Children's Hospital who discussed "The Use of Artificial Respiration in Poliomyelitis."

The first case, from the medical service, was presented by Dr. Strayhorn. The patient was an Italian laborer of 45 years who had entered the hospital three days previously with a complaint of pain and swelling of the left chest posteriorly. His family and past histories were negative. His present illness dated back two years when he felt a sudden pain in the left chest while at work. He stayed in bed for a week with a slight cough, and then felt perfectly well for six months. Then the pain returned and continued until two weeks ago when it suddenly ceased; soon afterwards he noticed a swelling in the left upper chest just to the left of the midline, which gradually grew larger.

Physical examination showed sluggishly reacting pupils with pulsation of the central arteries. The veins of the left arm seemed somewhat dilated. The chest was symmetrical and expanded well. Posteriorly on the upper left chest was a swelling measuring 10x10 cm. which pulsated. The heart sounds could be heard, but no murmurs or bruits were detectable. Breath sounds did not come through the tumor; otherwise the lungs were negative. The heart was not enlarged, with no murmurs, but the second sound was markedly accentuated. Reflexes were normal. The Wassermann was positive and doubtful on two occasions. The Hinton was negative. X-ray showed a large soft tissue mass which had eroded the 5th, 6th, and 7th ribs. The diagnosis of luetic aneurysm was obvious.

The second case was presented by Dr. Sagebiel of the surgical service. The patient was an 18 year old school girl who had lived most of her life in Nova Scotia. Four years ago she was struck in the abdomen by a large stone. A month later she had a bloody mucoid discharge from the rectum, and intermittently ever since she has had bloody diarrhea. Two weeks ago the acute stage set in, and she has been in bed ever since feeling quite sick with 5-6 stools a day and 3-4 at night.

On entrance physical examination showed a girl with all the signs of toxicity. The lungs were negative, and the heart showed a marked systolic murmur heard all over the precordium. The abdomen was not tender. There was no evidence of rose-spots or petechiae. She had continually run a temperature in the hospital. Her stools showed bright red and dark brown blood, and was tarry once. The Widal was questionably positive, but the stool on culture showed nothing but B. Coli. The blood showed a secondary anemia. Sigmoidoscopic examination showed several small bleeding points which on smearing were negative for tuberculosis. There was no ulceration or perforation. On one trial a large number of Entamoeba Histolytica were found. She was given emetin the day before presentation at the meeting, and her stool that night was negative for the entamoeba. Whether the emetin had caused the disappearance of the parasites from the stool in eighteen hours is questionable.

As an introduction to the demonstration of his own apparatus, Mr. Drinker reviewed the various attempts made in the past to produce artificial respiration until the present day the two most used methods were the manual one and the use of the pulmotor. The defect of the manual method is that the chest is only compressed, depending on its normal elasticity to produce the negative pressure; this is a reversal of the normal mechanism. Furthermore it has been found that the average pressure applied by many men engaged in this method is ninety to one hundred and twenty-five pounds; this is probably a strain on the patient if it is kept up. The pulmotor has been discarded as of doubtful use. Various other schemes have been tried. In one of these the patient is put in a chamber and pressure changes induced by a motor. In another an elastic box is put over the patient's mouth and nose and the physician breathes in and out. In still a third an elastic box is strapped on the chest, and is expanded or contracted by an electric motor.

Mr. Drinker's apparatus consists of a large boiler-shaped tube fitted with a sliding carriage upon which the patient rests with his head outside and separated from the inner chamber by a tightly-fitting rubber collar. The chamber being air-tight records any change in its volume through a respirometer on a revolving kymograph. The pressure is changed thirteen to fifteen times a minute by two electrical motors.

The question was raised as to how much negative and positive pressure was needed in pathologic cases, and if positive pressure was needed at all. Experi-

ments on normal people showed that speech is interfered with at ten centimeters of water pressure, and at twenty centimeters of water it was impossible to speak except at expiration. No change in metabolism was noted except on over-ventilation, and here the change was no more than is caused by any slight over-exercise. To prove the power of the machine, it was shown by x-ray photographs that the change in the chest was greater than by forced voluntary breathing. If the patient had to stay in the tank, the body heat changed the kymograph record and made the patient very uncomfortable. This difficulty was obviated by putting a thermostatic control on one end so that air when too hot is blown through an ice-bag and returned.

Mr. Drinker concluded his talk by a demonstration of the apparatus using a living subject.

Dr. Clifford opened his paper with a brief review of the epidemiology and pathology of acute anterior poliomyelitis. Three types of the disease appear; cases in which it attacks the trunk muscles, cases in which it attacks the intercostals, and lastly cases in which it attacks the bulbar centres. In those cases where symptoms, such as malaise, vomiting, slight fever, or stiff neck and back with pains in the legs, come on before paralysis, serum treatment is effective. The bulbar type acts very quickly, but if recovery from respiratory centre paralysis occurs, recovery is complete all over the body.

Death from poliomyelitis is usually from some kind of respiratory paralysis. Most of these paralyses of the central nervous system are due to edema of the nerve tissue, and if the patient can be tided over until the edema subsides, perhaps some lives can be saved. The manual method has been tried, but the infantile thorax lacks the elasticity for this; the pulmotor is much too powerful. Mr. Drinker's apparatus has been and is being used successfully in keeping certain patients alive. Dr. Clifford cited one case where a girl was kept alive and fairly comfortable for five days, when she developed pneumonia and died of circulatory failure, a death much to be preferred to that of respiratory failure.

Both papers were well-presented and gave to the interested audience new hope in the treatment of this disease.

PLYMOUTH DISTRICT MEDICAL SOCIETY

A very enthusiastic meeting was held by the Plymouth District Medical Society at the Lakeville Sanatorium, on Thursday, November 15, 1928.

Dr. Alley, the Superintendent of the Lakeville Sanatorium, entertained the fifty-seven physicians that were present from all parts of Plymouth County in a very fine and instructive manner. The physicians were divided into three groups and escorted through the hospital wards, Dr. Adams directing one group and Dr. Alley and his assistants the other two. Clinical demonstrations on particular cases were given by the instructors, the disability explained in full and the methods of treatment for individual cases explained. The ward visit occupied an hour and fifteen minutes and all the physicians spoke in the most enthusiastic terms of the talk given by the demonstrators, of the methods of treatment and of the extraordinary results.

The business meeting was held in the assembly hall of the executive department with Dr. T. H. McCarthy, President, presiding. Dr. George A. Moore was elected unanimously to fill the unexpired term of Dr. Loring B. Packard, resigned. Dr. John J. Callahan reported for the committee on clinics and health associations and read the resolutions adopted by the state council at their meeting in October. It was voted that a committee of five be appointed by the president to confer with hospitals, clinics and health associations in the Plymouth District, relative to the alleged abuse of charity in the treatment and care of patients. The committee appointed is: Dr. E. J. Beaulieu of Whitman, Dr. A. C. Smith, Dr. J. P. Shaw, Dr. F. W. Murdock and Dr. John J. Callahan, all of Brockton, the last named being the chairman of the committee. Dr. McCarthy is a member ex-officio.

A legislative committee was appointed by the president consisting of Dr. George A. Moore, Chairman, Dr. R. B. Rand of North Abington, Dr. Walter Pulsifer, Whitman, Dr. J. J. McNamara, Dr. A. C. Smith and Dr. J. P. Shaw, Brockton, Dr. I. I. Richmond, East Bridgewater, Dr. E. J. Beaulieu, Whitman, Dr. Carr, Bridgewater, Dr. C. H. Colgate, Jr., Rockland, and Dr. Charles Hammond, Hanover. The committee was authorized to meet the recently elected members, both senators and representatives to the General Court and to confer with them on future legislation in regard to health and sanitary laws that will come before the legislature during its coming session. An announcement was made by the president that Dr. Charles G. Miles had been appointed official reporter to the NEW ENGLAND JOURNAL OF MEDICINE and that any items of news pertaining to the medical profession in the district should be communicated to him by the members.

Dr. Z. B. Adams of Boston, consultant of the sanatorium, then made an address on "Bone and Joint Tuberculosis." The address was very instructive and well received by the members of the Plymouth District Society who were present. A hearty round of applause was given Dr. Adams for his splendid paper.

A fine dinner was then served to about sixty members and visitors in the dining hall.

The meeting was one of the best that has been held in recent years by this Society.

Respectfully submitted,

CHARLES G. MILES, M.D., *Reporter.*

SOCIETY MEETINGS

Combined Meetings of the Boston Medical Library, the Suffolk District Medical Society, the Middlesex South District Medical Society and the Norfolk District Medical Society

December 19—Surgical Section. Symposium on Stomach Surgery. "Operative Procedures: Indications and Results," Dr. R. H. Miller; "Selection and Management of Patients for Gastric Surgery," Dr. H. M. Clute; "Acute Perforations of Stomach and Duodenum," Dr. W. R. Morrison; "Results of a Series of Stomach Operations," Dr. E. S. Emery, Jr. Discussion by Doctors David Cheever, Edward P. Richardson, Frank H. Lahey and I. J. Walker.

January 30, 1929—General meeting in association with Boston Medical Library. "Heredity," Professor George H. Parker, Harvard University.

February 27, 1929—Medical Section. "The Newer Knowledge of Nutriment," Dr. Lafayette B. Mendel (exact title to be submitted later), Yale University Medical School.

March 27, 1929—Meeting in association with Middlesex South District Medical Society. Clinical and Experimental Studies of Obstructing Jaundice and Its Complications. Dr. Waltman Walters, Mayo Clinic.

April 24, 1929—Annual meeting. Speaker, Dr. Walton Martin, New York City. Title to be announced later.

The medical profession is cordially invited to attend all these meetings.

December 3-7—The Radiological Society convention. Complete notice appears on page 1123.

December 13—Massachusetts General Hospital Staff Meeting. Dr. Arlie V. Bock will speak on "Some Aspects of the Physiology of Muscular Exercise, Including a Study of Clarence DeMar, with Clinical Application."

DISTRICT MEDICAL SOCIETIES

Barnstable District Medical Society

Schedule of Meetings: February 7, 1929, May 2, 1929.

Bristol North District Medical Society

April 18, 1929—Spring meeting.

Essex North District Medical Society

January 2, 1929 (Wednesday)—Semi-annual meeting at Haverhill, at 12:30 P. M.

May 1, 1929 (Wednesday)—Annual meeting at Lawrence, at 12:30 P. M.

May 2, 1929 (Thursday)—Censors meet at Hotel Bartlett, 95 Main Street, Haverhill, at 2 P. M. (Tel. 3430.)

Essex South District Medical Society

December 5 (Wednesday)—Beverly Hospital. Clinic at 5 P. M. Dinner at 7 P. M. Speaker: Dr. Fred H. Albee, Sc.D., F.A.C.S., Professor of Orthopaedic Surgery, New York Post Graduate Medical School. Subject: Automatic Machinery in Bone Surgery. Discussion by Drs. H. C. Bean of Salem and C. Damsky of Lynn (10 minutes each). Discussion from the floor.

January 2, 1929 (Wednesday)—Hawthorne Hotel, Salem. Dinner at 7 P. M. Symposium on Gall Bladder Disease. Speakers: Dr. Chester Jones, Boston, Diagnosis of Gall Bladder Disease, and Differential Diagnosis in Jaundice. Dr. Paul Butler, Boston, X-ray in Gall Bladder Disease. Dr. Frank Lahey, Boston, Surgery of Gall Bladder.

February 6, 1929 (Wednesday)—Council meeting, Boston.

February 13, 1929 (Wednesday)—Danvers State Hospital. Clinic at 4 P. M. Supper at 6 P. M. Speaker: Dr. Roger Lee, Boston; subject to be announced later. Discussion from the floor.

March 6, 1929 (Wednesday)—Lynn Hospital. Clinic at 5 P. M. Dinner at 7 P. M. Symposium on Pneumonia. Speakers: Dr. Reginald Fitz, Diagnosis. Dr. Fred Lord, Treatment. Dr. William H. Robie, Heart in Pneumonia. Discussion from the floor.

RALPH E. STONE, M.D., Secretary.

Franklin District Medical Society

Meetings will be held on the second Tuesday of November, January, March and May.

Hampshire District Medical Society

December 12—Address by Dr. Philemon Truesdale.

March 13, 1929—Address by Dr. George E. Gage, Professor of Bacteriology and Physiology at the Massachusetts State College.

Middlesex East District Medical Society

The following schedule of meetings has been arranged for the coming year:

January 16—Wakefield.
March—Reading.
May—Melrose.

Subjects and speakers to be arranged by committees in each city or town.

Middlesex North Medical Society

The winter meeting will be held the last Wednesday in January.

The annual meeting will be held the last Wednesday in April.

Middlesex South District Medical Society

March 27, 1929—Joint meeting with the Suffolk and Norfolk Districts.

April, 1929—Annual meeting. Definite date to be announced later.

Norfolk District Medical Society

Below are the proposed meetings of the Norfolk District Medical Society for the 1928-29 Season. The schedule below will be adhered to as strictly as possible. The carrying out of the proposed plan will, of course, depend upon the acceptances of invitations extended to the speakers. Minor changes may be necessary.

January 29—Roxbury Masonic Temple. Subject, Treatment of Varicose Veins by the Injection Method—Dr. E. E O'Neil. Dr. Homans will open the discussion.

February 25—Roxbury Masonic Temple. Dr. W. R. Ohler. Subject to be announced. Discussion to be opened by Dr. A. A. Hornor.

March 29—Roxbury Masonic Temple. Subject and speakers to be announced.

May—Annual meeting program to be announced.

The Censors of the Society meet May 9, 1929, at the Roxbury Masonic Temple, Warren Street, Roxbury, at 4 P. M., for the examination of candidates.

Plymouth District Medical Society

January meeting, Thursday, January 17, 1929, at 11 A. M., Brockton Hospital, Brockton, Mass. Speakers: Dr. Michael F. Fallon, Chief of Surgical Staff, St. Vincent Hospital, Worcester, Mass.; Dr. Edw. J. Denning, Chief of Medical Staff, Carney Hospital, Boston, Mass.; subject to be announced later.

March meeting at the Moore Hospital, Brockton, Mass., March 21st, program to be announced later.

April meeting at the Commercial Club, Brockton, April 18th, at 6 P. M. Annual Oration by Dr. Ralph C. McLeod, Orator; dinner.

Suffolk District Medical Society

March 27, 1929—Meeting in association with Middlesex South District Medical Society. "Clinical and Experimental Studies of Obstructive Jaundice and Its Complications," Dr. Waltman Walters, Mayo Clinic.

April 24, 1929—Annual meeting. Speaker, Dr. Walton Martin, New York City. Title to be announced later.

LINCOLN DAVIS, M.D., President.

ARTHUR H. CROSBIE, M.D., Secretary.

Worcester District Medical Society

December 12, 1928—Chamber of Commerce, Worcester. Orthopedic Symposium.

January 9, 1929—Chamber of Commerce, Worcester. Dr. Leon T. LeWald of New York City.

February 13, 1929—Worcester State Hospital. Program to be announced.

March 13, 1929—Worcester City Hospital. Dedication of New Nurses' Home. Speaking program to be announced.

April 10, 1929—Grafton State Hospital. Program to be announced.

May 8, 1929—Annual meeting. Worcester Country Club.

Worcester North District Medical Society

January 22, 1929 (Tuesday)—At Henry Heywood Memorial Hospital, Gardner, by invitation. Program by Staff.

Annual meeting the fourth Tuesday in April.

BOOK REVIEWS

Goiter Prevention and Thyroid Protection. ISRAEL BRAM, M.D. F. A. Davis Company, Philadelphia.

About a year ago, a book by this same author, "Goiter: Non-surgical Types and Treatment," was reviewed in this JOURNAL. The present volume contains practically the same material, except that it is stated that this volume is intended particularly for the non-medical reader. In addition, there is an excellent chapter on Endemic Goiter in the United States, by Robert Allesen, M. D., Surgeon to the United States Public Health Service.

There is little to be said regarding this volume beyond what was said in the critical review of the book, "Goiter: Non-surgical Types and Treatment."

On page 785 we have the statement that in surgical clinics by and large the surgical mortality in undoubted exophthalmic goiter is at least 20 per cent. Such similar misleading statements appear so often in Dr. Bram's writings and talks that one becomes skeptical as to the trustworthiness of his other statements. Let us read another of his statements, on page 186: "Quantity versus Quality." He states: "To be sure, surgical clinics turn out a large number of exophthalmic goiter patients. But on analysis it is seen that the quantitative aspect of the question is unimportant. It is far better to cure permanently one patient than to operate upon a dozen and lose sight of them to whatever fate seems to befall them. Surgical clinics have little, if any, opportunity actually to study these patients during

a sufficient period of time to know enough about them. The endocrinologist, on the other hand, studies his case and patient zealously until he has guided his charge through to unequivocal permanent cure." After reading this, one realizes how simple becomes the conclusion when one can be judge, jury and advocate. A careful perusal of this book or the previous one fails to reveal any statistical evidence of the number of cases cured by Dr. Bram, and both books are quite free from any statistical follow-up or series of basal metabolic readings before and after the indefinite methods which he claims for treatment. Dr. Bram's attention is directed to a series of basal metabolic readings on a thousand operated exophthalmic goiter cases before and after operation, published by Joslin and Lahey in The American Journal of Medical Sciences, July 1928, No. 1, vol. CLXXVI, p. 1. In this series, 850 cases were followed for three months; 652 for six months; 424 for nine months and 380 for twelve months. To the reviewer's actual and personal knowledge, Dr. Bram has been requested to publish statistics proving his unsupported statements, but these have not been forthcoming. Until such statements, of undoubted authenticity appear, one can only say that there is so much in this book—as in the one previously reviewed, "Goiter: Non-surgical Types and Treatment,"—that is unsupported by other physicians' experiences and unsubstantiated by evidence, that the book cannot be recommended either to the physician or to the laity.

The last third of the book is occupied by an Appendix with the subheading: "A Brief Description of our Ductless Glands." Here, under another heading, "Miracles of Endocrinology," one finds several statements as to the benefits of ductless gland therapy with which Dr. Bram will find many sound observers at variance.

The book closes with a statement which is so typical of the character of the author's statement and way of thinking that it is quoted as a closing criticism: "Scientific endocrinology has opened our eyes to great possibilities in the alleviation of human suffering, and may some day answer the riddle of life itself."

"Criteria for the Classification and Diagnosis of Heart Disease", by a committee appointed by the Heart Committee of the New York Tuberculosis and Health Association, Inc. Hoeber, N. Y. 1928.

The preface of this small book states that "for the most effective study of any kind of disease and in order that people working in different places may know that they are using the same terms for the same conditions, it is necessary to establish precise methods of labelling. This necessitates two things: (1) uniformity of nomenclature, and (2) uniform criteria for using the nomenclature". With this in view the Heart Committee of the New York Tuberculosis and Health Association has prepared an authoritative resumé of the criteria necessary for diagnosing the cardiac conditions which are classified according to the nomenclature accepted by the American Heart Association.

The book fills a very useful position in interpreting the present language of cardiology. Its conciseness is a virtue and will help to cut away much of the dead wood of older physical diagnosis in relation to the heart. It is divided into two sections: one of criteria for nomenclature, and the other criteria for diagnosis. Its basis is the appreciation of the necessity for a four-fold description of all cases of heart disease from the standpoint of etiology, anatomy, physiology and function. In practice this method has proved valuable for several years in many cardiac clinics. The essential points chosen as necessary for a diagnosis in a given condition are only those which are to be considered fundamental to the diagnosis and minor points are omitted.

If one were to suggest a few modifications (which the committee welcomes) those which occur to the reviewer are the inclusion of the electrocardiographic finding of right axis deviation as a valuable aid in the diagnosis of some cases of mitral stenosis and the presence of ascites in young cardiacs as a suggestion of adherent pericardium with the inferior mediastinal syndrome. Mention should also be made of the occurrence of the Austin-Flint murmur in some hearts with very large left ventricular cavities without aortic regurgitation; and one might well question the statement that pulmonic stenosis is usually present with patent ductus arteriosus. The inclusion of a diagnosis of "unknown" in the etiologic classification and "undiagnosed" in the anatomic section, is, however, a healthy stimulus for further investigation.

Blood: A Study In General Physiology, by LAWRENCE J. HENDERSON, Professor of Biological Chemistry in Harvard University. New Haven. Yale University Press, 1928. Pp. 397.

This work presents in book form the substance of the Silliman Lectures delivered by Professor Henderson at Yale University. It portrays accurately and in detail the blood as a dynamic physico-chemical equilibrium engaged in the physiological function of respiration. Heretofore physiologists have tended to isolate physiological phenomena from the organism as a whole and to study them without reference to the activities of other organs of the body. Professor Henderson and his collaborators have departed from this principle and, with the aid of mathematics, have integrated the physico-chemical respiratory function of the blood in health and in certain pathological conditions into a complex but understandable whole. Unfortunately many workers in medicine are not acquainted with mathematics, the hand-maid of science. To them this work may be scarcely understandable. To the laboratory investigator, however, the significance of Professor Henderson's book cannot be overestimated.

Laboratory Manual of the Massachusetts General Hospital. By ROY R. WHEELER, M.D., and F. T. HUNTER, M.D. Published by Lea & Febiger, Philadelphia. 101 pages.

The title of this little book describes its contents. In the briefest way, yet with exactness, directions are given for performing all the laboratory tests which do not require special technic, such for example as the Wassermann test. The method of obtaining the specimens to be tested is described; so also is the method of administering various tests, such as those for renal and liver function, sugar-tolerance and various sensitizations. The commoner minor therapeutic operations—lumbar puncture, blood transfusion and intravenous medication—are described. A great deal of useful information, admirably presented, is contained in this epitome of 100

pages. The first edition, published in 1922, has been thoroughly revised, and a number of additions have been made.

The Determination of Hydrogen Ions. By W. MANSFIELD CLARK, M.A., PH.D. The Williams and Wilkins Company, Baltimore.

The appearance of the third edition of such an outstanding work needs little more than a statement of that fact to recommend it. New advancements in the determination of hydrogen ions have necessitated a fifty per cent. expansion in size and the addition of nine chapters on new developments in methods, theories and applications. Numerous valuable additions to the tables have been made. Among the improvements noted are an improved color chart, the inclusion of references for each of the 185 indicators listed, of convenient lists of symbols, formulas and definitions of terms, and a more completely cross-referenced index. The bibliography while purposely far from complete is a satisfactory key to the literature dating into 1928. Several chapters have been rewritten in part in the readable, discoursive style which augmented the popularity of the first two editions. The work remains an elementary text on the determination of hydrogen ions by indicator, electrode and supplementary methods but promises to retain its position as the standard treatise on the subject in the English language.

Bronchial Asthma—Its Diagnosis and Treatment. By HARRY L. ALEXANDER, M.D. (St. Louis.) Published by Lea and Febiger—1928.

This little monograph has only 144 pages of text, but it is written with great care and with no extra words.

One wonders that the immense literature can be boiled down to such a small essence. In later editions, Dr. Alexander will undoubtedly enlarge his 12 lines on Cardiac Asthma and his 2 pages on the rôle of remote infections, although it is true that these lines and pages do give accurately the essence of our present knowledge. Vagus stimulation and the anatomy of bronchial nerves and muscles are of primary importance, but a larger portion of the space should be devoted to the origin and nature of the underlying poison which can also cause the symptoms of hay fever, urticaria and perhaps eczema. The excellent presentation of the pathology is not well balanced by the less effective discussion of the immunology. The known facts of treatment are appraised with discretion and good judgment, but with scanty comment. A few case reports would help.

The conciseness of the book and its 350 references make it an excellent guide and reference work to be read, studied and used by every student and practitioner of the subject.

L'Exploration Radiologique en Gynecologie. Technique-Resultats. Claude Béclère, Interne des Hôpitaux de Paris. 162 pages. Publisher: Masson et Cie, Paris.

This book is a well-written monograph addressed to the specialist. It contains 60 X-ray prints of typic normal and pathologic lesions of gynecologic interest and a complete bibliography.

The first portion of the book takes up the development of X-ray diagnosis of pelvic conditions, including Pneumoperitoneum, Tubal Insufflation and the present method of Radiography after the injection of Lipiodol.

The technique consists in the injection under aseptic precautions of lipiodol through a catheter introduced into the uterine cervix. Béclère uses a 20 cc. glass syringe to which a monometer is attached. 15-20 cc. of lipiodol are injected under steady pressure which should never exceed 300 mm. of mercury. After injection, X-ray plates are taken. Under conditions when the uterine and tubal cavities are normal, but a pelvic tumor exists, a fine thread of lead is placed on the abdomen, outlining the tumor, and another injection and X-ray are made.

The normal and pathologic morphology and physiology as illustrated by the X-ray pictures are first described. Then follows the pathologic application which is taken up under three headings: (1) Study of Permeability of the Fallopian tubes; (2) the Diagnosis of Pelvic Tumors and (3) the Diagnosis of the Metrorrhagias.

The value of this method of diagnosis is already well recognized in the study of tubal permeability. Béclère shows its importance in the differential diagnosis between fibromata, tubal lesions and cysts of the ovary and broad ligament. In the metrorrhagias its importance lies in the ability to rule out retained placenta, intrauterine polyp and neoplasm of the body of the uterus. In the diagnosis of pelvic tumors and the metrorrhagias, this method of Lipiodol injection should assume as much importance in Gynecology as does that of Pyelography in Urology.

"Syphilis." CHARLES C. DENNIE, B.S., M.D. Publisher: Harper & Brothers, 1928.

Dr. Dennie's unusually fine background of pathologic training shows itself throughout the book in his ability to elucidate obscure phases of the disease by explaining simply the modifications of function and the changes in structure involved. After a careful reading of the book, one can hardly do better than to quote the foreword.

"Into this comparatively small volume Dr. Dennie has compressed the fruits of many years of experience in the observation and treatment of syphilis. He presents the pathology of this disease from a rather different point of view than is usually found in text-books and with a gratifying freedom from confusing technicalities. After a brief discussion of the disease as a whole there follows a series of chapters in which the author treats in detail the peculiar characteristics of syphilis as it involves the several organs and systems of the body. There follows an ample portion of the book devoted to treatment in which the reader finds described not only what should be given in various conditions and how, but also, what is often more important, what should not be done under certain circumstances. The work differs from many books in that it is built up from the author's personal experiences in caring for patients with this disease, and is in no sense a compilation from the literature. While he is obviously familiar with the literature of his specialty, there are but scant references to it in his book. The result gives the impression of a vivid personal conversation with an able consultant rather than a formal, lifeless, didactic lecture. Its convenient size will make this book an agreeable companion under any circumstances, and its contents should

make it of the greatest value to the practitioner in helping him to understand and to combat the most protean of infections."

An Introduction to Experimental Pharmacology. By TORALD SOLLMANN, M.D., Professor of Pharmacology and Materia Medica at Western Reserve University, Cleveland, and Paul J. Hanzlik, M.D., Professor of Pharmacology at Stanford University, San Francisco, Calif. Octavo volume of 321 pages, illustrated. Philadelphia and London: W. B. Saunders Company, 1928. Cloth, $4.25 net.

This work is primarily a guide for a laboratory course in pharmacology and is based upon the extensive experience of the authors, one of whom is professor at Western Reserve University and the other at Stanford University. It is essentially a revision and adaptation of Sollmann's "Laboratory Guide in Pharmacology" which has long been the leading text in this field.

While designed primarily for the use of undergraduate medical students, the book will prove of great value to all workers in experimental medicine. Internes and physicians may also find many useful suggestions in it. Thus in the section on "Chemical Pharmacology" simple methods are given for detecting the presence (or absence) of many common drugs and poisons such as acetanilid, arsenic, morphine, strychnine, etc.; methods are also given for detecting drugs in the urine.

Part II (Experimental Pharmacodynamics) contains, among other useful features, a chapter on "bronchial, allergic and glandular reactions," and chapters on methods of testing different local anesthetics, diuretics, etc., and the bio-assay of drugs.

Detailed directions are given for the production of anesthesia in animals for experimental work. A very valuable feature of the book is the collection of "doses for animals" which occupies thirty pages; nowhere else can an investigator find such an extensive compilation of data of this character.

Almost the entire field of experimental pharmacology is covered and on every page there is evidence that the statements and experiments are based upon first-hand knowledge of the authors.

Surgical Clinics of North America. Vol. VIII, No. 4, August, 1928. Philadelphia Number. W. B. Saunders Company.

This volume consists in a group of interesting clinics on varied subjects by leading surgeons of Philadelphia. Although a wide range of topics is covered by the thirty-seven articles, the favorite field of discussion is biliary surgery. Deaver warns against placing too much reliance on cholecystography and suggests that the test might cause pancreatitis. He also emphasizes the possibility of other pathology associated with cholecystitis especially duodenal ulcer and chronic appendicitis. Nassau disparages the use of cholecystoduodenostomy. Eliason and Ferguson consider nearly all phases of biliary tract disease, including splanchnic anaesthesia and various methods of operating, some of which seem rather radical.

Carcinoma of the rectum is discussed by DaCosta, that of the colon by Pfeiffer and Smyth, while Speese and Bothe present some cases of tumors of the cecum simulating acute appendicitis.

The latter authors also give important data in the treatment of burns and the use of tannic acid, a subject which is more fully presented by Lee. Speese and Bothe also describe a modified Ramstedt operation for hypertrophy of the pylorus in adults.

An excellent, varied, general surgical clinic is offered by Babcock. Among the eleven conditions which he considers are rigidity following cerebral injury, meningematoma invading the parietal lobe, skin grafting upon dry bone, transplantation of the breast to cover a defect due to excision of a radiation burn, vaginal coeliotomy, ball thrombus, spina bifida, and paralysis due to an injection of quinine and urea.

A lucid description of ventriculography and its advantages is given by Francis C. Grant. E. J. Klopp reports five cases of splenectomy and concisely mentions the indications for this operation.

Many other articles help make this number of the Surgical Clinics of North America one from which any surgeon could glean some valuable suggestions.

"The Daily Health Builder." DR. C. WARD CRAMPTON. G. P. Putnam's Sons. New York City. 161 pp.

Dr. Crampton's book, "The Daily Health Builder," starts with the correct principle that exercises should be directed primarily to the body muscles which in our day and generation are not used as much as they should be. The book is clear and interestingly written, and is so well illustrated that anyone can do the exercises at home with a little study. None of the exercises, except possibly his last test of physical condition, is at all strenuous. He properly advises everyone who starts in to do exercises to consult a physician, which the reviewer considers an extremely wise thing to include in every book. It would seem that if these exercises were carried out systematically by more people, we would have a much healthier generation. The book is a step in the right direction.

BOOKS RECEIVED FOR REVIEW

Criteria for the Classification and Diagnosis of Heart Disease. Edited by Joseph Bainton. Published by Paul B. Hoeber, Inc. 92 Pages.

The Daily Health Builder. Edited by C. Ward Crampton. Published by G. P. Putnam's Sons. 161 Pages.

Blood. Edited by Lawrence Henderson. Published by Yale University Press. 397 Pages.

Bacteriology, General Pathologic Intestinal. Edited by Arthur Kendall. Published by Lea & Febiger. 733 Pages.

Physical Education Activities. Edited by the Staff of the Department of Physical Education for Women, University of Michigan. Published by Lea & Febiger. 322 Pages.

Laboratory Manual of the Massachusetts General Hospital. Edited by Roy Wheeler and F. Hunter. Published by Lea & Febiger. 101 Pages.

Chemistry in Medicine. Edited by Julius Stieglitz. Published by the Chemical Foundation. 757 Pages.

Modern X-Ray Technic. Edited by Ed. C. Jerman. Published by Bruce Publishing Company. 260 Pages.

Text-Book of Urology. Edited by Daniel Eisendrath and Harry Rolnick. Published by J. B. Lippincott Company. 942 Pages.